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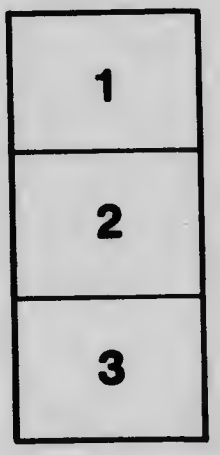


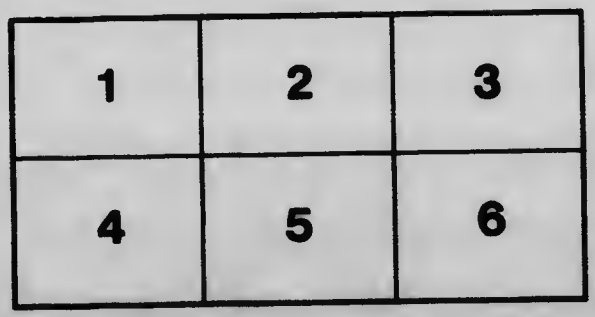

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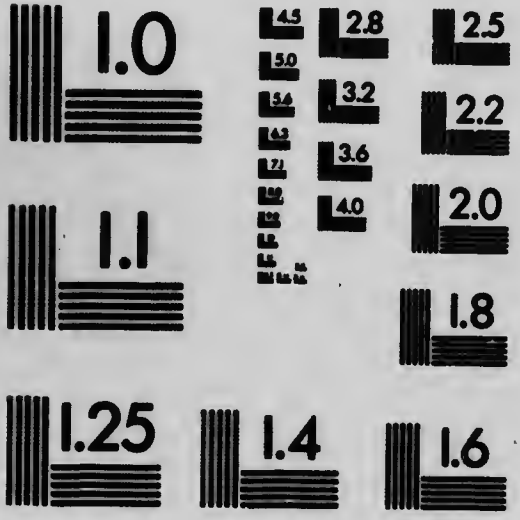


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# Pocket List

OF THE WORLD
FAMOUS

# Safford Radiators

## Triumph

**Round and Sectional Steam and Hot Water Boilers**

**Importers of and Dealers in Iron Pipe, Fittings, Brass and Iron Body Valves, and Steam Fitters' Sundries.**

The Dominion Radiator Company Limited.

TORONTO, CANADA

MONTREAL BRANCH

Entered according to Act of the Parliament of Canada, in the office of the Minister of Agriculture at Ottawa, in the year 1906, by the Dominion Radiator Company, Limited, of Toronto.

TO 146 CRAIG ST. WEST

## Safford Radiators.

# FAVORITE and DAISY.

### FOUR COLUMN.

### Capacities and Dimensions.

| Number of Sections. | *Length 4 in. per Section. | Heating Surface—Square Feet. | | | | | |
|---|---|---|---|---|---|---|---|
| | | 42 in. in Height. 9⅔ Sq. Ft. per Section. | 38 in. in Height. 8 Sq. Ft. per Section. | 33 in. in Height. 6⅔ Sq. Ft. per Section. | 26 in. in Height. 5⅓ Sq. Ft. per Section. | 20 in. in Height 4 Sq. Ft. per Section. | 16 in. in Height. 2⅔ Sq. Ft. per Section |
| 2 | 8 | 19⅓ | 16 | 13⅓ | 10⅔ | 8 | 5 |
| 3 | 12 | 29 | 24 | 20 | 16 | 12 | 7½ |
| 4 | 16 | 38⅔ | 32 | 26⅔ | 21⅓ | 16 | 10 |
| 5 | 20 | 48⅓ | 40 | 33⅓ | 26⅔ | 20 | 12½ |
| 6 | 24 | 58 | 48 | 40 | 32 | 24 | 15 |
| 7 | 28 | 67⅔ | 56 | 46⅔ | 37⅓ | 28 | 17½ |
| 8 | 32 | 77⅓ | 64 | 53⅓ | 42⅔ | 32 | 20 |
| 9 | 36 | 87 | 72 | 60 | 48 | 36 | 22½ |
| 10 | 40 | 96⅔ | 80 | 66⅔ | 53⅓ | 40 | 25 |
| 11 | 44 | 106⅓ | 88 | 73⅓ | 58⅔ | 44 | 27½ |
| 12 | 48 | 116 | 96 | 80 | 64 | 48 | 30 |
| 13 | 52 | 125⅔ | 104 | 86⅔ | 69⅓ | 52 | 32½ |
| 14 | 56 | 135⅓ | 112 | 93⅓ | 74⅔ | 56 | 35 |
| 15 | 60 | 145 | 120 | 100 | 80 | 60 | 37½ |
| 16 | 64 | 154⅔ | 128 | 106⅔ | 85⅓ | 64 | 40 |
| 17 | 68 | 164⅓ | 136 | 113⅓ | 90⅔ | 68 | 42½ |
| 18 | 72 | 174 | 144 | 120 | 96 | 72 | 45 |
| 19 | 76 | 183⅔ | 152 | 126⅔ | 101⅓ | 76 | 47½ |
| 20 | 80 | 193⅓ | 160 | 133⅓ | 106⅔ | 80 | 50 |
| 21 | 84 | 203 | 168 | 140 | 112 | 84 | 52½ |
| 22 | 88 | 212⅔ | 176 | 146⅔ | 117⅓ | 88 | 55 |
| 23 | 92 | 222⅓ | 184 | 153⅓ | 122⅔ | 92 | 57½ |
| 24 | 96 | 232 | 192 | 160 | 128 | 96 | 60 |
| 25 | 100 | 241⅔ | 200 | 166⅔ | 133⅓ | 100 | 62½ |

*In estimating length of Radiator allow ½ inch for each [illegible]

## Safford Radiators.

# TRIDENT.

### THREE COLUMN.

### Capacities and Dimensions.

| Number of Sections. | *Length 2¾ in. per Section. | Heating Surface—Square Feet. | | | | | |
|---|---|---|---|---|---|---|---|
| | | 44 in. in Height. 6 Sq. Ft. per Section. | 38 in. in Height. 5 Sq. Ft. per Section. | 32 in. in Height. 4½ Sq. Ft. per Section. | 26 in. in Height. 3½ Sq. Ft. per Section. | 22 in. in Height. 3 Sq. Ft. per Section. | 18 in. in Height. 2½ Sq. Ft. per Section. |
| 2 | 5 | 12 | 10 | 9 | 7½ | 6 | 4½ |
| 3 | 7½ | 18 | 15 | 13½ | 11¼ | 9 | 6¾ |
| 4 | 10 | 24 | 20 | 18 | 15 | 12 | 9 |
| 5 | 12½ | 30 | 25 | 22½ | 18¾ | 15 | 11¼ |
| 6 | 15 | 36 | 30 | 27 | 22½ | 18 | 13½ |
| 7 | 17½ | 42 | 35 | 31½ | 26¼ | 21 | 15¾ |
| 8 | 20 | 48 | 40 | 36 | 30 | 24 | 18 |
| 9 | 22½ | 54 | 45 | 40½ | 33¾ | 27 | 20¼ |
| 10 | 25 | 60 | 50 | 45 | 37½ | 30 | 22½ |
| 11 | 27½ | 66 | 55 | 49½ | 41¼ | 33 | 24¾ |
| 12 | 30 | 72 | 60 | 54 | 45 | 36 | 27 |
| 13 | 32½ | 78 | 65 | 58½ | 48¾ | 39 | 29¼ |
| 14 | 35 | 84 | 70 | 63 | 52½ | 42 | 31½ |
| 15 | 37½ | 90 | 75 | 67½ | 56¼ | 45 | 33¾ |
| 16 | 40 | 96 | 80 | 72 | 60 | 48 | 36 |
| 17 | 42½ | 102 | 85 | 76½ | 63¾ | 51 | 38¼ |
| 18 | 45 | 108 | 90 | 81 | 67½ | 54 | 40½ |
| 19 | 47½ | 114 | 95 | 85½ | 71¼ | 57 | 42¾ |
| 20 | 50 | 120 | 100 | 90 | 75 | 60 | 45 |
| 21 | 52½ | 126 | 105 | 94½ | 78¾ | 63 | 47¼ |
| 22 | 55 | 132 | 110 | 99 | 82½ | 66 | 49½ |
| 23 | 57½ | 138 | 115 | 103½ | 86¼ | 69 | 51¾ |
| 24 | 60 | 144 | 120 | 108 | 90 | 72 | 54 |
| 25 | 62½ | 150 | 125 | 112½ | 93¾ | 75 | 56¼ |

*In estimating length of Radiator allow ½ inch for each plug or bushing.

## Safford Radiators.

# FAVORITE and DAISY.

### TWO COLUMN.

### Capacities and Dimensions.

| Number of Sections | *Length 3½ in. per Section. | Heating Surface—Square Feet. | | | | |
|---|---|---|---|---|---|---|
| | | 38 in. in Height. 4 Sq. Ft. per Section. | 32 in. in Height. 3⅓ Sq. Ft. per Section. | 26 in. in Height. 2⅔ Sq. Ft. per Section. | 20 in. in Height. 2 Sq. Ft. per Section. | 16 in. in Height. 1⅓ Sq. ft per Sec. |
| 2 | 7 | 8 | 6⅔ | 5⅓ | 4 | 3 |
| 3 | 10½ | 12 | 10 | 8 | 6 | 4½ |
| 4 | 14 | 16 | 13⅓ | 10⅔ | 8 | 6 |
| 5 | 17½ | 20 | 16⅔ | 13⅓ | 10 | 7½ |
| 6 | 21 | 24 | 20 | 16 | 12 | 9 |
| 7 | 24½ | 28 | 23⅓ | 18⅔ | 14 | 10½ |
| 8 | 28 | 32 | 26⅔ | 21⅓ | 16 | 12 |
| 9 | 31½ | 36 | 30 | 24 | 18 | 13½ |
| 10 | 35 | 40 | 33⅓ | 26⅔ | 20 | 15 |
| 11 | 38½ | 44 | 36⅔ | 29⅓ | 22 | 16½ |
| 12 | 42 | 48 | 40 | 32 | 24 | 18 |
| 13 | 45½ | 52 | 43⅓ | 34⅔ | 26 | 19½ |
| 14 | 49 | 56 | 46⅔ | 37⅓ | 28 | 21 |
| 15 | 52½ | 60 | 50 | 40 | 30 | 22½ |
| 16 | 56 | 64 | 53⅓ | 42⅔ | 32 | 24 |
| 17 | 59½ | 68 | 56⅔ | 45⅓ | 34 | 25½ |
| 18 | 63 | 72 | 60 | 48 | 36 | 27 |
| 19 | 66½ | 76 | 63⅓ | 50⅔ | 38 | 28½ |
| 20 | 70 | 80 | 66⅔ | 53⅓ | 40 | 30 |
| 21 | 73½ | 84 | 70 | 56 | 42 | 31½ |
| 22 | 77 | 88 | 73⅓ | 58⅔ | 44 | 33 |
| 23 | 80½ | 92 | 76⅔ | 61⅓ | 46 | 34½ |
| 24 | 84 | 96 | 80 | 64 | 48 | 36 |
| 25 | 87½ | 100 | 83⅓ | 66⅔ | 50 | 37½ |

* In estimating length of Radiator allow ½ inch for each plug or bushing.

## Safford Radiators.

# PERFECT.

### TWO COLUMN.

### Capacities and Dimensions.

| Number of Sections. | †Length 2⅛ in. per Section. | Heating Surface—Square Feet. | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 45 in. in Height. 6 Sq. Ft. per Section. | 38 in. in Height. 6 Sq. Ft. per Section. | 32 in. in Height. 3½ Sq. Ft. per Section. | 30 in. in Height. 3 Sq. Ft. per Section. | 26 in. in Height. 2⅔ Sq. Ft. per Section. | 23 in. in Height. 2½ Sq. Ft. per Section. | 20 in. in Height. 2 Sq. Ft. per Section. |
| 2 | 5 | 10 | 8 | 6⅔ | 6 | 5⅓ | 4⅔ | 4 |
| 3 | 7½ | 15 | 12 | 10 | 9 | 8 | 7 | 6 |
| 4 | 10 | 20 | 16 | 13⅓ | 12 | 10⅔ | 9⅓ | 8 |
| 5 | 12½ | 25 | 20 | 16⅔ | 15 | 13⅓ | 11⅔ | 10 |
| 6 | 15 | 30 | 24 | 20 | 18 | 16 | 14 | 12 |
| 7 | 17½ | 35 | 28 | 23⅓ | 21 | 18⅔ | 16⅓ | 14 |
| 8 | 20 | 40 | 32 | 26⅔ | 24 | 21⅓ | 18⅔ | 16 |
| 9 | 22½ | 45 | 36 | 30 | 27 | 24 | 21 | 18 |
| 10 | 25 | 50 | 40 | 33⅓ | 30 | 26⅔ | 23⅓ | 20 |
| 11 | 27½ | 55 | 44 | 36⅔ | 33 | 29⅓ | 25⅔ | 22 |
| 12 | 30 | 60 | 48 | 40 | 36 | 32 | 28 | 24 |
| 13 | 32½ | 65 | 52 | 43⅓ | 39 | 34⅔ | 30⅓ | 26 |
| 14 | 35 | 70 | 56 | 46⅔ | 42 | 37⅓ | 32⅔ | 28 |
| 15 | 37½ | 75 | 60 | 50 | 45 | 40 | 35 | 30 |
| 16 | 40 | 80 | 64 | 53⅓ | 48 | 42⅔ | 37⅓ | 32 |
| 17 | 42½ | 85 | 68 | 56⅔ | 51 | 45⅓ | 39⅔ | 34 |
| 18 | 45 | 90 | 72 | 60 | 54 | 48 | 42 | 36 |
| 19 | 47½ | 95 | 76 | 63⅓ | 57 | 50⅔ | 44⅓ | 38 |
| 20 | 50 | 100 | 80 | 66⅔ | 60 | 53⅓ | 46⅔ | 40 |
| 21 | 52½ | 105 | 84 | 70 | 63 | 56 | 49 | 42 |
| 22 | 55 | 110 | 88 | 73⅓ | 66 | 58⅔ | 51⅓ | 44 |
| 23 | 57½ | 115 | 92 | 76⅔ | 69 | 61⅓ | 53⅔ | 46 |
| 24 | 60 | 120 | 96 | 80 | 72 | 64 | 56 | 48 |
| 25 | 62½ | 125 | 100 | 83⅓ | 75 | 66⅔ | 58⅓ | 50 |

* 30 and 23-inch Radiators are made for steam only.
† In estimating length of Radiator allow ½ inch for each plug or bushing.

## Safford Radiators.

# FLORENCE.

### TWO COLUMN.

### Capacities and Dimensions.

| Number of Sections. | †Length 2½ in. per Section. | Heating Surface—Square Feet. 45 in. in Height. 5 Sq. Ft. per Section. | 38 in. in Height. 4 Sq. Ft. per Section. | 32 in. in Height. 3⅓ Sq. Ft. per Section. | 26 in. in Height. 2⅔ Sq. Ft. per Section. | 20 in. in Height. 2 Sq. Ft. per Section. | 16 in. in Height. 1⅓ Sq. Ft. per Section. |
|---|---|---|---|---|---|---|---|
| 2 | 5 | 10 | 8 | 6⅔ | 5⅓ | 4 | 3 |
| 3 | 7½ | 15 | 12 | 10 | 8 | 6 | 4½ |
| 4 | 10 | 20 | 16 | 13⅓ | 10⅔ | 8 | 6 |
| 5 | 12½ | 25 | 20 | 16⅔ | 13⅓ | 10 | 7½ |
| 6 | 15 | 30 | 24 | 20 | 16 | 12 | 9 |
| 7 | 17½ | 35 | 28 | 23⅓ | 18⅔ | 14 | 10½ |
| 8 | 20 | 40 | 32 | 26⅔ | 21⅓ | 16 | 12 |
| 9 | 22½ | 45 | 36 | 30 | 24 | 18 | 13½ |
| 10 | 25 | 50 | 40 | 33⅓ | 26⅔ | 20 | 15 |
| 11 | 27½ | 55 | 44 | 36⅔ | 29⅓ | 22 | 16½ |
| 12 | 30 | 60 | 48 | 40 | 32 | 24 | 18 |
| 13 | 32½ | 65 | 52 | 43⅓ | 34⅔ | 26 | 19½ |
| 14 | 35 | 70 | 56 | 46⅔ | 37⅓ | 28 | 21 |
| 15 | 37½ | 75 | 60 | 50 | 40 | 30 | 22½ |
| 16 | 40 | 80 | 64 | 53⅓ | 42⅔ | 32 | 24 |
| 17 | 42½ | 85 | 68 | 56⅔ | 45⅓ | 34 | 25½ |
| 18 | 45 | 90 | 72 | 60 | 48 | 36 | 27 |
| 19 | 47½ | 95 | 76 | 63⅓ | 50⅔ | 38 | 28½ |
| 20 | 50 | 100 | 80 | 66⅔ | 53⅓ | 40 | 30 |
| 21 | 52½ | 105 | 84 | 70 | 56 | 42 | 31½ |
| 22 | 55 | 110 | 88 | 73⅓ | 58⅔ | 44 | 33 |
| 23 | 57½ | 115 | 92 | 76⅔ | 61⅓ | 46 | 34½ |
| 24 | 60 | 120 | 96 | 80 | 64 | 48 | 36 |
| 25 | 62½ | 125 | 100 | 83⅓ | 66⅔ | 50 | 37½ |

† In estimating length of Radiator allow ⅛ inch for each plug or bushing.

## Safford Radiators.

# TORO.

### TWO COLUMN.

### Capacities and Dimensions.

| Number of Sections | * Length 2½ in. per Section | Heating Surface—Square Feet. | | | |
|---|---|---|---|---|---|
| | | 38 in. in Height. 4 Sq. Ft. per Section. | 32 in. in Height. 3⅓ Sq. Ft. per Section. | 26 in. in Height. 2⅔ Sq. Ft. per Section. | 20. in. in Height. 2 Sq. ft. per Sec. |
| 2 | 5 | 8 | 6⅔ | 5⅓ | 4 |
| 3 | 7½ | 12 | 10 | 8 | 6 |
| 4 | 10 | 16 | 13⅓ | 10⅔ | 8 |
| 5 | 12½ | 20 | 16⅔ | 13⅓ | 10 |
| 6 | 15 | 24 | 20 | 16 | 12 |
| 7 | 17½ | 28 | 23⅓ | 18⅔ | 14 |
| 8 | 20 | 32 | 26⅔ | 21⅓ | 16 |
| 9 | 22½ | 36 | 30 | 24 | 18 |
| 10 | 25 | 40 | 33⅓ | 26⅔ | 20 |
| 11 | 27½ | 44 | 36⅔ | 29⅓ | 22 |
| 12 | 30 | 48 | 40 | 32 | 24 |
| 13 | 32½ | 52 | 43⅓ | 34⅔ | 26 |
| 14 | 35 | 56 | 46⅔ | 37⅓ | 28 |
| 15 | 37½ | 60 | 50 | 40 | 30 |
| 16 | 40 | 64 | 53⅓ | 42⅔ | 32 |
| 17 | 42½ | 68 | 56⅔ | 45⅓ | 34 |
| 18 | 45 | 72 | 60 | 48 | 36 |
| 19 | 47½ | 76 | 63⅓ | 50⅔ | 38 |
| 20 | 50 | 80 | 66⅔ | 53⅓ | 40 |
| 21 | 52½ | 84 | 70 | 56 | 42 |
| 22 | 55 | 88 | 73⅓ | 58⅔ | 44 |
| 23 | 57½ | 92 | 76⅔ | 61⅓ | 46 |
| 24 | 60 | 96 | 80 | 64 | 48 |
| 25 | 62½ | 100 | 83⅓ | 66⅔ | 50 |

* In estimating length of Radiator allow ½ inch for each plug or bushing.

## Safford Radiators.

# ROYAL and PROVINCIAL.

### TWO COLUMN.

### Capacities and Dimensions.

| Number of Sections | *Length 2½ in. per Section. | Heating Surface—Square Feet. | | | | |
|---|---|---|---|---|---|---|
| | | 45 in. in Height. 5 Sq. Ft. per Section. | 38 in. in Height. 4 Sq. Ft. per Section. | 32 in. in Height. 3⅓ Sq. Ft. per Section. | 26 in. in Height. 2⅔ Sq. Ft. per Section. | 20 in. in Height. 2 Sq. ft. per Sec. |
| 2 | 5 | 10 | 8 | 6⅔ | 5⅓ | 4 |
| 3 | 7½ | 15 | 12 | 10 | 8 | 6 |
| 4 | 10 | 20 | 16 | 13⅓ | 10⅔ | 8 |
| 5 | 12½ | 25 | 20 | 16⅔ | 13⅓ | 10 |
| 6 | 15 | 30 | 24 | 20 | 16 | 12 |
| 7 | 17½ | 35 | 28 | 23⅓ | 18⅔ | 14 |
| 8 | 20 | 40 | 32 | 26⅔ | 21⅓ | 16 |
| 9 | 22½ | 45 | 36 | 30 | 24 | 18 |
| 10 | 25 | 50 | 40 | 33⅓ | 26⅔ | 20 |
| 11 | 27½ | 55 | 44 | 36⅔ | 29⅓ | 22 |
| 12 | 30 | 60 | 48 | 40 | 32 | 24 |
| 13 | 32½ | 65 | 52 | 43⅓ | 34⅔ | 26 |
| 14 | 35 | 70 | 56 | 46⅔ | 37⅓ | 28 |
| 15 | 37½ | 75 | 60 | 50 | 40 | 30 |
| 16 | 40 | 80 | 64 | 53⅓ | 42⅔ | 32 |
| 17 | 42½ | 85 | 68 | 56⅔ | 45⅓ | 34 |
| 18 | 45 | 90 | 72 | 60 | 48 | 36 |
| 19 | 47½ | 95 | 76 | 63⅓ | 50⅔ | 38 |
| 20 | 50 | 100 | 80 | 66⅔ | 53⅓ | 40 |
| 21 | 52½ | 105 | 84 | 70 | 56 | 42 |
| 22 | 55 | 110 | 88 | 73⅓ | 58⅔ | 44 |
| 23 | 57½ | 115 | 92 | 76⅔ | 61⅓ | 46 |
| 24 | 60 | 120 | 96 | 80 | 64 | 48 |
| 25 | 62½ | 125 | 100 | 83⅓ | 66⅔ | 50 |

NOTE—Provincial made in 45 in., 38 in. and 32 in. heights only.

* In estimating length of Radiator allow ½ inch for each plug or bushing.

## Safford Radiators.

# IDEAL FLUE VENTILATING.

### Capacities and Dimensions.

| Number of Sections | *Length 3 in. per Section. | Heating Surface—Square Feet. | | | | |
|---|---|---|---|---|---|---|
| | | 42 in. in Height. 8¼ Sq. Ft. per Section. | 38 in. in Height. 7 Sq. Ft. per Section. | 32 in. in Height. 5¾ Sq. Ft. per Section. | 26 in. in Height. 4½ Sq. Ft. per Section. | 20 in. in Height. 3¼ Sq. ft per Sec. |
| 2 | 6 | 16½ | 14 | 11½ | 9 | 6½ |
| 3 | 9 | 24¾ | 21 | 17¼ | 13½ | 9¾ |
| 4 | 12 | 33 | 28 | 23 | 18 | 13 |
| 5 | 15 | 41¼ | 35 | 28¾ | 22½ | 16¼ |
| 6 | 18 | 49½ | 42 | 34½ | 27 | 19½ |
| 7 | 21 | 57¾ | 49 | 40¼ | 31½ | 22¾ |
| 8 | 24 | 66 | 56 | 46 | 36 | 26 |
| 9 | 27 | 74¼ | 63 | 51¾ | 40½ | 29¼ |
| 10 | 30 | 82½ | 70 | 57½ | 45 | 32½ |
| 11 | 33 | 90¾ | 77 | 63¼ | 49½ | 35¾ |
| 12 | 36 | 99 | 84 | 69 | 54 | 39 |
| 13 | 39 | 107¼ | 91 | 74¾ | 58½ | 42¼ |
| 14 | 42 | 115½ | 98 | 80½ | 63 | 45½ |
| 15 | 45 | 123¾ | 105 | 86¼ | 67½ | 48¾ |
| 16 | 48 | 132 | 112 | 92 | 72 | 52 |
| 17 | 51 | 140¼ | 119 | 97¾ | 76½ | 55¼ |
| 18 | 54 | 148½ | 126 | 103½ | 81 | 58½ |
| 19 | 57 | 156¾ | 133 | 109¼ | 85½ | 61¾ |
| 20 | 60 | 165 | 140 | 115 | 90 | 65 |
| 21 | 63 | 173¼ | 147 | 120¾ | 94½ | 68¼ |
| 22 | 66 | 181½ | 154 | 126½ | 99 | 71½ |
| 23 | 69 | 189¾ | 161 | 132¼ | 103½ | 74¾ |
| 24 | 72 | 198 | 168 | 138 | 108 | 78 |
| 25 | 75 | 206¼ | 175 | 143¾ | 112½ | 81¼ |

* In estimating length of Radiator allow ⅛ inch for each plug or bushing

## Safford Radiators.

# ZENDA.

### SINGLE COLUMN.

### Capacities and Dimensions.

| Number of Sections | *Length 2½ in. per Section | Heating Surface—Square Feet. | | | | |
|---|---|---|---|---|---|---|
| | | 38 in. in Height. 3 Sq. Ft. per Section. | 32 in. in Height. 2½ Sq. Ft. per Section. | 26 in. in Height. 2 Sq. Ft. per Section. | 23 in. in Height. 1⅔ Sq. Ft. per Section. | 20. in. in Height. 1½ Sq. ft. per Sec. |
| 2 | 5 | 6 | 5 | 4 | 3⅓ | 3 |
| 3 | 7½ | 9 | 7½ | 6 | 5 | 4½ |
| 4 | 10 | 12 | 10 | 8 | 6⅔ | 6 |
| 5 | 12½ | 15 | 12½ | 10 | 8⅓ | 7½ |
| 6 | 15 | 18 | 15 | 12 | 10 | 9 |
| 7 | 17½ | 21 | 17½ | 14 | 11⅔ | 10½ |
| 8 | 20 | 24 | 20 | 16 | 13⅓ | 12 |
| 9 | 22½ | 27 | 22½ | 18 | 15 | 13½ |
| 10 | 25 | 30 | 25 | 20 | 16⅔ | 15 |
| 11 | 27½ | 33 | 27½ | 22 | 18⅓ | 16½ |
| 12 | 30 | 36 | 30 | 24 | 20 | 18 |
| 13 | 32½ | 39 | 32½ | 26 | 21⅔ | 19½ |
| 14 | 35 | 42 | 35 | 28 | 23⅓ | 21 |
| 15 | 37½ | 45 | 37½ | 30 | 25 | 22½ |
| 16 | 40 | 48 | 40 | 32 | 26⅔ | 24 |
| 17 | 42½ | 51 | 42½ | 34 | 28⅓ | 25½ |
| 18 | 45 | 54 | 45 | 36 | 30 | 27 |
| 19 | 47½ | 57 | 47½ | 38 | 31⅔ | 28½ |
| 20 | 50 | 60 | 50 | 40 | 33⅓ | 30 |
| 21 | 52½ | 63 | 52½ | 42 | 35 | 31½ |
| 22 | 55 | 66 | 55 | 44 | 36⅔ | 33 |
| 23 | 57½ | 69 | 57½ | 46 | 38⅓ | 34½ |
| 24 | 60 | 72 | 60 | 48 | 40 | 36 |
| 25 | 62½ | 75 | 62½ | 50 | 41⅔ | 37½ |

* In estimating length of Radiator allow ½ inch for each plug or bushing.

## Safford Radiators.

# ACME WINDOW FLUE.

### Capacities and Dimensions.

| Number of Sections | *Length 3 in. per Section. | Heating Surface—Square Feet. | | | | |
|---|---|---|---|---|---|---|
| | | 20 in. in Height. 6 Sq. Ft. per Section. | 18 in. in Height. 5⅓ Sq. Ft. per Section. | 16 in. in Height. 4⅔ Sq. Ft. per Section. | 14 in. in Height. 4 Sq. Ft. per Section. | 13 in. in Height. 3⅓ Sq. ft. per Sec. |
| 2 | 6 | 12 | 10⅔ | 9⅓ | 8 | 7⅓ |
| 3 | 9 | 18 | 16 | 14 | 12 | 11 |
| 4 | 12 | 24 | 21⅓ | 18⅔ | 16 | 14⅔ |
| 5 | 15 | 30 | 26⅔ | 23⅓ | 20 | 18⅓ |
| 6 | 18 | 36 | 32 | 28 | 24 | 22 |
| 7 | 21 | 42 | 37⅓ | 32⅔ | 28 | 25⅔ |
| 8 | 24 | 48 | 42⅔ | 37⅓ | 32 | 29⅓ |
| 9 | 27 | 54 | 48 | 42 | 36 | 33 |
| 10 | 30 | 60 | 53⅓ | 46⅔ | 40 | 36⅔ |
| 11 | 33 | 66 | 58⅔ | 51⅓ | 44 | 40⅓ |
| 12 | 36 | 72 | 64 | 56 | 48 | 44 |
| 13 | 39 | 78 | 69⅓ | 60⅔ | 52 | 47⅔ |
| 14 | 42 | 84 | 74⅔ | 65⅓ | 56 | 51⅓ |
| 15 | 45 | 90 | 80 | 70 | 60 | 55 |
| 16 | 48 | 96 | 85⅓ | 74⅔ | 64 | 58⅔ |
| 17 | 51 | 102 | 90⅔ | 79⅓ | 68 | 62⅓ |
| 18 | 54 | 108 | 96 | 84 | 72 | 66 |
| 19 | 57 | 114 | 101⅓ | 88⅔ | 76 | 69⅔ |
| 20 | 60 | 120 | 106⅔ | 93⅓ | 80 | 73⅓ |
| 21 | 63 | 126 | 112 | 98 | 84 | 77 |
| 22 | 66 | 132 | 117⅓ | 102⅔ | 88 | 80⅔ |
| 23 | 69 | 138 | 122⅔ | 107⅓ | 92 | 84⅓ |
| 24 | 72 | 144 | 128 | 112 | 96 | 88 |
| 25 | 75 | 150 | 133⅓ | 116⅔ | 100 | 91⅔ |

* In estimating length of Radiator allow ⅝ inch for each plug or bushing.

## Safford Radiators.

# WALL RADIATORS.

FOWLER & WOLFE PATTERN.

**Made in Four Different Sizes.**

| Capacity of Section | Width, Inches | Length, Inches | Thickness, Inches | Capacity One Inch Pipe |
|---|---|---|---|---|
| 5 sq. feet | 13 | 17 | 3 | 15 feet of inch pipe |
| 6 " | 13 | 21 | 3 | 18 " " " |
| 7 " | 13 | 24 | 3 | 21 " " " |
| 9 " | 13 | 24 | $3\frac{3}{16}$ | 27 " " " |

These may be built into stacks horizontal or vertical. The measurement will be calculated by the number of loops connected together according to the above table.

# DINING ROOM RADIATORS.

FOUR COLUMN. DAISY ORNAMENTAL. HEIGHT—38 IN. ONLY.

**Sizes and List Price.**

| Size | No. of loops in Radiator (exclusive of Oven) | Square Feet of Heating Surface | Extreme Length, Inches | Price, without Top | Price with Plain Top | Price with Plated Top |
|---|---|---|---|---|---|---|
| AA | 2 | 21 | 28 | $48 31 | $50 25 | $52 35 |
| A | 4 | 37 | 36 | 53 83 | 55 50 | 58 20 |
| B | 6 | 53 | 44 | 60 61 | 63 00 | 66 30 |
| C | 8 | 69 | 52 | 68 14 | 70 50 | 74 40 |
| D | 10 | 85 | 60 | 74 25 | 78 00 | 82 50 |
| E | 12 | 101 | 63 | 80 95 | 85 50 | 90 00 |
| F | 14 | 117 | 76 | 87 73 | 93 00 | 98 70 |

Ovens are 21 inches long by 12 inches wide.

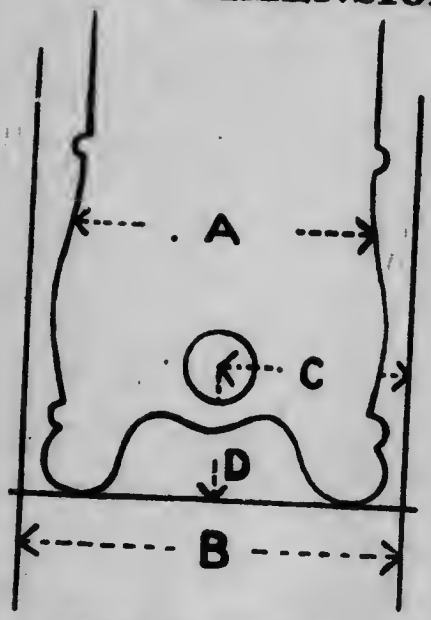
# CIRCLE RADIATORS.

| TWO COLUMN. | | | THREE COLUMN. | | | FOUR COLUMN. | | |
|---|---|---|---|---|---|---|---|---|
| No. of Sections | Outside Diameter at Legs | Inside Diameter at Legs | No. of Sections | Outside Diameter at Legs | Inside Diameter at Legs | No. of Sections | Outside Diameter at Legs | Inside Diameter at Legs |
| 16 | 24 | 7 | 12 | 26½ | 6½ | 12 | 24 | 7 |
| 18 | 26 | 9 | 14 | 27¼ | 7¼ | 14 | 28 | 11 |
| 20 | 27½ | 10½ | 16 | 28½ | 8½ | 16 | 29½ | 12½ |
| 24 | 29½ | 12½ | 18 | 29½ | 9½ | 18 | 33½ | 16½ |
| 28 | 33½ | 16½ | 20 | 30½ | 10½ | 20 | 34 | 17 |
| 32 | 37 | 20 | 22 | 31½ | 11½ | 22 | 36 | 19 |
| 38 | 41 | 24 | 24 | 32½ | 12½ | 28 | 40 | 23 |
| 40 | 41 | 24 | 26 | 33 | 13 | 32 | 52½ | 35½ |
| 44 | 50 | 33 | 28 | 33½ | 13½ | | | |
| 46 | 53 | 36 | 30 | 35½ | 15½ | | | |

NOTE.—Circle radiators not made in two column Favorite and Daisy.

## Safford Radiators.

# DIMENSIONS OF LOOPS.




Single Connection.

Twin Connection.

| | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| | In. | In. | In. | In. | In. | In. | In. |
| Zenda | 4½ | 5½ | 2¾ | 4½ | .. | .. | .. |
| Florence | 8 | 8½ | 4¼ | 4½ | 4½ | 3¼ | 2⅝ |
| Toro | 7¾ | 7¾ | 3⅞ | 3⅞ | 3⅞ | 3¼ | 2¼ |
| Daisy (2-loop) | 5 | 6½ | 3¼ | 3¾ | 3¾ | 3¼ | 1⅝ |
| Favorite (2-loop) | 5 | 6½ | 3¼ | 3¾ | 3¾ | 3¼ | 1⅝ |
| Royal | 7¼ | 8½ | 4¼ | 3⅞ | .. | .. | .. |
| Provincial | 7¼ | 8½ | 4¼ | 3⅞ | .. | .. | .. |
| Perfect | 7¼ | 8¼ | 4⅛ | 3⅞ | 3⅞ | 3¼ | 2½ |
| Trident | 9 | 9½ | 4¾ | 4½ | 4½ | 3¼ | 3⅛ |
| Daisy (4-loop) | 8¼ | 8½ | 4¼ | 4 | 4 | 3¼ | 2⅝ |
| Favorite (4-loop) | 8¼ | 8½ | 4¼ | 4 | 4 | 3¼ | 2⅝ |
| Ideal | 8¾ | 8¾ | 4⅜ | 6 | 6 | 3¼ | 2¾ |
| Acme | 12½ | 12¾ | 6⅜ | 3 | 3 | 3¼ | 4¾ |

## Safford Radiators.

# TAPPINGS.

The following list applies to all radiators :

### ONE PIPE STEAM.

| | |
|---|---|
| 25 square feet and under | 1 inch |
| Above 25 but not exceeding 60 square feet | 1¼ " |
| Above 60 but not exceeding 100 square feet | 1½ " |
| Above 100 square feet | 2 " |

All one pipe connections, unless otherwise ordered, are tapped left hand. All connections are tapped eccentric.

### TWO PIPE STEAM.

| | |
|---|---|
| 48 square feet and under | 1 x ¾ inch |
| Above 48 but not exceeding 95 square feet | 1¼ x 1 " |
| Above 95 square feet | 1½ x 1¼ " |

All two pipe connections, unless otherwise ordered, are tapped right hand. Return opening is tapped eccentric.

### WATER, SINGLE OR TWIN CONNECTIONS.

| | |
|---|---|
| 48 square feet and under | 1 x 1 inch |
| Above 48 but not exceeding 100 sq. ft. | 1¼ x 1¼ " |
| Above 100 square feet | 1½ x 1½ " |

All twin connections, unless otherwise ordered, are tapped left hand. Single connections are tapped right hand. All Hot Water Radiators are shipped twin connection, tapped left hand, unless otherwise ordered.

Wall Radiators are tapped top and bottom same end left hand for hot water unless otherwise ordered.

NOTE.—These remarks apply to both direct and direct-indirect radiators.

When using union valves or union elbows please state this fact in ordering so that connections may be tapped right hand.

## Safford Radiators.

# TAPPINGS FOR WEBSTER SYSTEM.

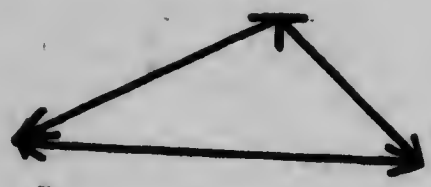
**Size of Tappings for Radiators with Webster System.**

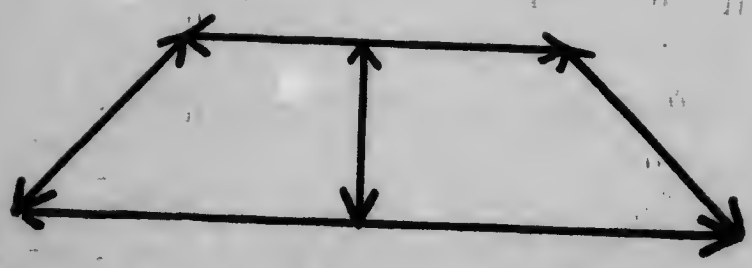
| RADIATORS CONTAINING: | |
|---|---|
| Square Feet of Surface. | Supply and Return. |
| From 1 to 30 sq. ft. | ½ in. Supply, ½ in. Return |
| " 31 to 80 " | ¾ " " ½ " " |
| " 81 to 150 " | 1 " " ½ " " |
| " 151 to 200 " | 1¼ " " ½ " " |
| " 201 to 300 " | 1½ " " ¾ " " |
| " 301 to 600 " | 2 " " ¾ " " |
| " 601 to 1200 " | 2½ " " 1 " " |

NOTE.—Return Openings are tapped eccentric.

## Safford Radiators.

# SPECIAL MEASUREMENTS.





In ordering angle radiators, where it is not convenient to send templet, it will be quite satisfactory to send sketch as above, with exact measurements of the different lengths, as shown.

For curved radiators, if the curve is a section of a true circle, the radius of the circle will be sufficient; if not, a templet, preferably in wood, but satisfactory if made of heavy paper, is necessary.

If ordering "twin connections," state whether wanted on right hand or left hand side facing radiator.

## Safford Radiators.

# DIMENSIONS OF OPENINGS.

### OF BACK INLETS, TWO AND FOUR COLUMN, DIRECT-INDIRECT, AND IDEAL FLUE VENTILATING RADIATORS.

### TWO COLUMN DIRECT-INDIRECT.

Width of collar ..... 2¾ inches,
Length of smallest collar..... 5½ "

which can be increased by any multiple of two and one-half inches to the desired length.

### FOUR COLUMN DIRECT-INDIRECT.

Width of collar ..... 2¾ inches.
Length of smallest collar..... 8¾ "

which can be increased by any multiple of four inches to the desired length.

### IDEAL FLUE VENTILATING.

| Size of Radiator. | | Dimensions of Collar. |
|---|---|---|
| 3 sections | ..... | 3 x 2⅜ inches. |
| 4 " | ..... | 3 x 4 " |
| 5 " | ..... | 3 x 7 " |
| 6 " | ..... | 3 x 8½ " |
| 7 " | ..... | 3½ x 11 " |
| 8 " | ..... | 3½ x 11¼ " |
| 9 " | ..... | 3½ x 14 " |

and for each additional section length is increased three inches.

# TRIUMPH
## ROUND HOT WATER BOILERS.
### Price List, Dimensions and Capacities.

| Number of Heater | Capacity Cast Iron Radiation, including mains. Square feet | Capacity Cast Iron Radiation, not including mains. Square feet | Capacity one-inch pipe, including mains. Lineal feet | Capacity one-inch pipe, not including mains. Lineal feet | List Price $ c. | Height to Top Outlet of Boiler. Inches | Ht. to Top Outlet of Header. Ins. | Outside Diameter at Base. Inches | Diameter of Grate. Inches | Size of Smoke Outlet. Inches | Number and Size of Outlets of Boiler. Inches | Number and Size of Outlets of Header. Inches |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-19 | 575 | 430 | 1725 | 1290 | 114 00 | 50⅜ | 56 | 30½ | 19 | 8 | 2-2½ | 4-2 |
| 3-19 | 650 | 490 | 1950 | 1470 | 150 00 | 54⅞ | 60 | 30½ | 19 | 8 | 2-2½ | 4-2 |
| 2-22 | 875 | 660 | 2625 | 1980 | 184 00 | 52¼ | 59 | 35 | 22 | 9 | 2-3 | 4-2 |
| 3-22 | 950 | 715 | 2850 | 2145 | 190 00 | 57¼ | 64 | 35 | 22 | 9 | 2-3 | 4-2 |
| 2-25 | 1025 | 770 | 3075 | 2310 | 205 00 | 55 | 64 | 38 | 25 | 9 | 2-3½ | 8-2 |
| 3-25 | 1150 | 865 | 3450 | 2595 | 224 00 | 60 | 69 | 38 | 25 | 9 | 2-3½ | 8-2 |
| 2-28 | 1500 | 1125 | 4500 | 3375 | 256 00 | 55½ | 65 | 41⅜ | 28 | 10 | 2-4 | 8-2 |
| 3-28 | 1650 | 1250 | 4950 | 3750 | 326 00 | 60½ | 70 | 41⅜ | 28 | 10 | 2-4 | 8-2 |
| 2-31 | 2100 | 1575 | 6300 | 4725 | 392 00 | 59 | 69 | 44⅛ | 31 | 10 | 2-4 | 4-2½<br>4-2 |
| 3-31 | 2325 | 1760 | 6975 | 5280 | 400 00 | 64¾ | 75 | 44⅛ | 31 | 10 | 2-4 | 4-2½<br>4-2 |
| 2-34 | 2475 | 1860 | 7425 | 5580 | 410 00 | 61⅝ | 72 | 48⅞ | 34 | 11 | 2-5 | 4-2½<br>4-2 |
| 3-34 | 2725 | 2050 | 8175 | 6150 | 424 00 | 66⅛ | 77 | 48⅞ | 34 | 11 | 2-5 | 4-2½<br>4-2 |

For additional measurements see pages 23 and 24.
Domestic Water Heaters for above, each $3.00.

# TRIUMPH

## ROUND STEAM BOILERS.

### Price List, Dimensions, and Capacities.

| No. | Height (to top outlet) Inches | Outside Diam. at Base, Inches | Diam. Grate Inches | Height Water Line, Inches | One Outlet and two Inlets Size, Inches | Ratings (see note) Square Feet | Size of Smoke Outlet, Inches | List Price |
|---|---|---|---|---|---|---|---|---|
| 2-19S | 57 | 30½ | 19 | 50 | 2½ | 350 | 8 | $140 00 |
| 3-19S | 61½ | 30½ | 19 | 54½ | 2½ | 400 | 8 | 158 00 |
| 2-22S | 58¾ | 35 | 22 | 53½ | 3 | 525 | 9 | 182 00 |
| 3-22S | 63¾ | 35 | 22 | 56⅞ | 3 | 575 | 9 | 210 00 |
| 2-25S | 61¾ | 38 | 25 | 54¼ | 3½ | 625 | 9 | 215 00 |
| 3-25S | 66¾ | 38 | 25 | 59¼ | 3½ | 700 | 9 | 226 00 |
| 2-28S | 62½ | 41⅜ | 28 | 56 | 4 | 900 | 10 | 274 00 |
| 3-28S | 67 7/16 | 41⅜ | 28 | 61¾ | 4 | 1000 | 10 | 296 00 |
| 2-31S | 66 | 44⅛ | 31 | 57¼ | 4 | 1275 | 10 | 326 00 |
| 3-31S | 71⅞ | 44⅛ | 31 | 63¼ | 4 | 1400 | 10 | 350 00 |
| 2-34S | 69 | 48⅞ | 34 | 59⅜ | 5 | 1500 | 11 | 387 00 |
| 3-34S | 75 | 48⅞ | 34 | 65½ | 5 | 1650 | 11 | 425 00 |

For additional measurements, see pages 23 and 24

NOTE.—Ratings are gross, and provide that all piping (mains, returns and risers) shall be figured as radiation in estimating size of Boiler required.

Domestic Water Heaters for above, each $3.00.

# TRIUMPH SECTIONAL BOILERS.

**Steam.** **Water.**

| No. of Boiler | Rating, Square feet (See note.) | List Price | Number of Sections | *Length Inches | Width, Inches | Foundation Inches | Grate, Inches | Length of Smoke Hood. Inches | Sm'ke Outlet. Ins. | Number of Outlets | List Price | Rating. Square feet (See note.) | No. of Boiler |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $ | | | | | | | | | $ | | |
| S-15-5 | 425 | 196 | 5 | 27½ | 28½ | 24 x29 | 15x24½ | 13 5/16 | 8 | 2-3 | 180 | 700 | W-15-5 |
| S-15-6 | 550 | 230 | 6 | 33¾ | 28½ | 24 x35 | 15x30¾ | 13 5/16 | 8 | 2-3 | 210 | 900 | W-15-6 |
| S-15-7 | 675 | 266 | 7 | 40 | 28½ | 24 x41 | 15x37 | 13 5/16 | 8 | 2-3 | 241 | 1100 | W-15-7 |
| S-15-8 | 800 | 310 | 8 | 46¼ | 28½ | 24 x47 | 15x43¼ | 13 5/16 | 8 | 2-3 | 275 | 1300 | W-15-8 |
| 085 | 500 | 230 | 5 | 34 | 28 | 30 x26⅝ | 18x24¾ | 12¼ | 8 | 2-3 | 192 | 825 | 185 |
| 086 | 625 | 265 | 6 | 40 | 28 | 36 x26⅝ | 18x30¾ | 12¼ | 8 | 2-3 | 224 | 1025 | 186 |
| 087 | 750 | 300 | 7 | 46 | 28 | 42 x26⅝ | 18x36¾ | 12¼ | 8 | 2-3 | 260 | 1250 | 187 |
| S-21-5 | 800 | 335 | 5 | 35 | 40 | 30¾x36 | 21x28 | 15¼ | 10 | 2-4 | 270 | 1325 | W-21-5 |
| S-21-6 | 1000 | 390 | 6 | 42 | 40 | 30¾x43 | 21x35 | 15¼ | 10 | 2-4 | 322 | 1650 | W-21-6 |
| S-21-7 | 1200 | 450 | 7 | 49 | 40 | 30¾x50 | 21x42 | 15½ | 10 | 2-4 | 376 | 2000 | W-21-7 |
| 045 | 900 | 346 | 5 | 39 | 40½ | 35 x33½ | 24x27½ | 14⅜ | 12 | 2-4 | 300 | 1500 | 245 |
| 046 | 1100 | 400 | 6 | 46¼ | 40½ | 42¼x33½ | 24x34¾ | 14⅜ | 12 | 2-4 | 344 | 1825 | 246 |
| 047 | 1300 | 455 | 7 | 53½ | 40½ | 49½x33½ | 24x42 | 14⅜ | 12 | 2-4 | 392 | 2150 | 247 |
| 048 | 1500 | 516 | 8 | 60¾ | 40½ | 56¾x33½ | 24x49¼ | 14⅜ | 12 | 3-4 | 440 | 2475 | 248 |

*Add to length given, the length of smoke hood for total length.

For additional measurements see pages 25 and 26.

NOTE.—Ratings are gross, and provide that all piping (mains, returns and risers) shall be figured as radiation in estimating size of Boiler required.

# TRIUMPH SECTIONAL BOILERS.

**Steam.** **Water.**

| No. of Boiler. | Rating. Square feet. (See note.) | List Price. | Number of Sections. | *Length. Inches. | Width. Inches. | Foundation. Inches | Grate. Inches. | Length of Smoke Hood. Inches. | Smoke Outlet. Ins. | Number of Outlets. | List Price. | Rating. Square Feet. (See note.) | No. of Boiler. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-30-5 | 1275 | $ 500 | 5 | 35¼ | 51 | 32 x40 | 30x28 | 21 | 13 | 2-4 | $ 430 | 2100 | W-30-5 |
| S-30-6 | 1625 | 586 | 6 | 42¼ | 51 | 39 x40 | 30x35 | 21 | 13 | 2-4 | 570 | 2675 | W-30-6 |
| S-30-7 | 1975 | 675 | 7 | 49¼ | 51 | 46 x40 | 30x42 | 21 | 13 | 2-4 | 586 | 3250 | W-30-7 |
| S-30-8 | 2325 | 760 | 8 | 56¼ | 51 | 53 x40 | 30x49 | 21 | 13 | 3-4 | 664 | 3825 | W-30-8 |
| 065 | 1800 | 725 | 5 | 46¾ | 61 | 43 x49½ | 36x32⅜ | 10¼ | 14 | 2-5 | 640 | 2950 | 365 |
| 066 | 2250 | 844 | 6 | 55 | 61 | 51¼ x49½ | 36x40⅝ | 10¼ | 14 | 2-5 | 750 | 3700 | 366 |
| 067 | 2700 | 962 | 7 | 63¼ | 61 | 59½ x49½ | 36x48⅞ | 10¼ | 14 | 2-5 | 856 | 4450 | 367 |
| 068 | 3150 | 1,082 | 8 | 71½ | 61 | 67¾ x49½ | 36x57⅛ | 10¼ | 14 | 3-5 | 966 | 5200 | 368 |
| 069 | 3600 | 1,200 | 9 | 79¾ | 61 | 76 x49½ | 36x65⅜ | 10½ | 16 | 3-5 | 1,076 | 5950 | 369 |
| S-48-6 | 3700 | 1,464 | 6 | 64 | 69 | 55 x52 | 48x54 | 27¼ | 21 | 2-6 | 1,375 | 6125 | W-48-6 |
| S-48-7 | 4500 | 1,685 | 7 | 74¾ | 69 | 66 x52 | 48x64¾ | 27¼ | 21 | 2-6 | 1,585 | 7425 | W-48-7 |
| S-48-8 | 5300 | 1,910 | 8 | 85½ | 69 | 77 x52 | 48x75½ | 27¼ | 21 | 3-6 | 1,800 | 8750 | W-48-8 |
| S-48-9 | 6100 | 2,134 | 9 | 96¼ | 69 | 88 x52 | 48x86¼ | 27¼ | 21 | 3-6 | 2,000 | 10075 | W-48-9 |
| S-48-10 | 6900 | 2,360 | 10 | 107 | 69 | 99 x52 | 48x97 | 27¼ | 21 | 3-6 | 2,220 | 11375 | W-48-10 |

*Add to length given, length of smoke hood, for total length.

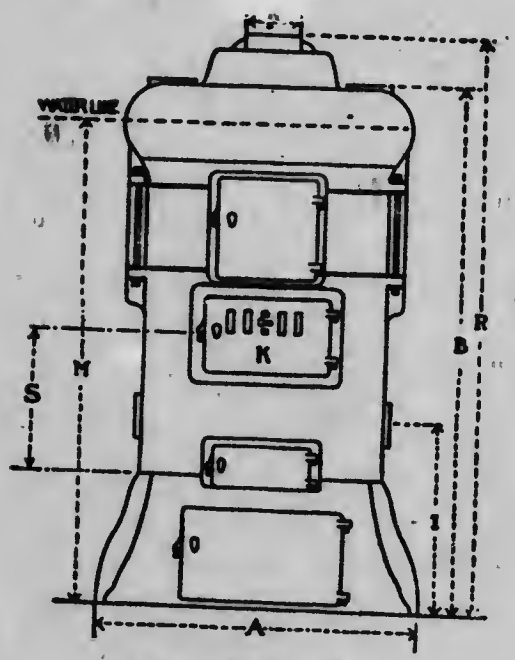
For additional measurements see pages 25 and 26.

NOTE.—Ratings are gross, and provide that all piping (mains, returns and risers) shall be figured as radiation in estimating size of Boiler required.

# TRIUMPH

## ROUND HOT WATER AND STEAM BOILERS.

### MEASUREMENTS.




**For Hard Coal.**

Above outlines do not represent the Water Boiler. Outlines of Steam Boiler used to show measurements of both types.

# TRIUMPH
## ROUND HOT WATER AND STEAM BOILERS.

### MEASUREMENTS—Continued.

Table of distances between points as outlined on skeleton sketch of Boilers shown on opposite page.

These measurements are given in inches.

**STEAM.**

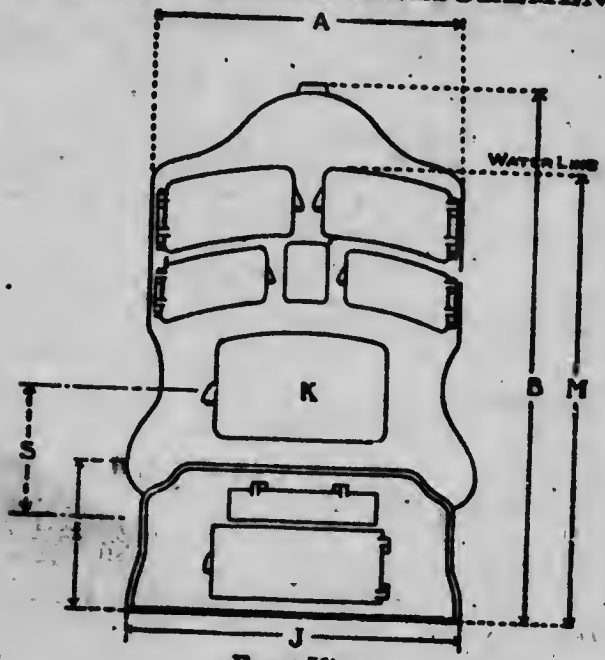
| No. | A | B | I | K | M | P | R | S |
|---|---|---|---|---|---|---|---|---|
| 2-19-S | 30½ | 57 | 14¾ | 8½ x 11¾ | 50 | 8 | 64¼ | 15¾ |
| 3-19-S | 30½ | 61½ | 14¾ | 8½ x 11¾ | 54½ | 8 | 68¾ | 15¾ |
| 2-22-S | 35 | 58¾ | 16¼ | 9 x 13¼ | 53½ | 9 | 67 | 16 |
| 3-22-S | 35 | 63¾ | 16¼ | 9 x 13¼ | 56⅞ | 9 | 71¼ | 16 |
| 2-25-S | 38 | 61¾ | 17½ | 9 x 13¼ | 54¼ | 9 | 70¼ | 16 |
| 3-25-S | 38 | 66¾ | 17½ | 9 x 13¼ | 59¼ | 9 | 75¼ | 16 |
| 2-28-S | 41⅜ | 62½ | 17¾ | 9⅝ x 18 | 56 | 10 | 70¼ | 18 |
| 3-28-S | 41⅜ | 67 7/16 | 17¾ | 9⅝ x 18 | 61¾ | 10 | 75¼ | 18 |
| 2-31-S | 44⅛ | 66 | 18 | 9⅝ x 18 | 57¼ | 10 | 74¾ | 19½ |
| 3-31-S | 44⅛ | 71⅞ | 18 | 9⅝ x 18 | 63¼ | 10 | 81¼ | 19½ |
| 2-34-S | 48⅞ | 69 | 19 | 9⅝ x 18 | 59⅜ | 11 | 77½ | 20 |
| 3-34-S | 48⅞ | 75 | 19 | 9⅝ x 18 | 65½ | 11 | 84¼ | 20 |

**WATER.**

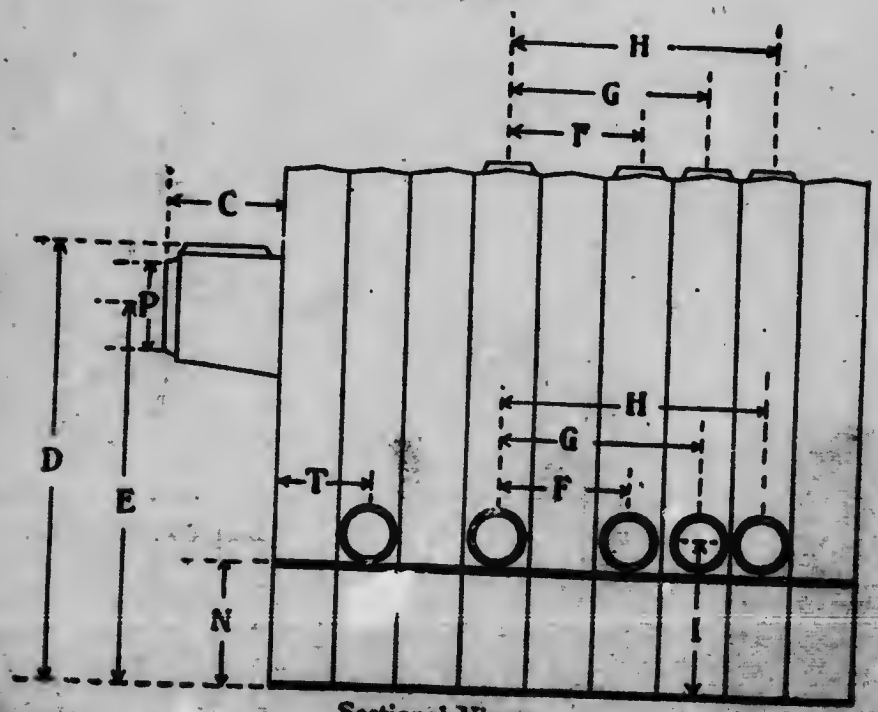
| No. | A | B | I | K | P | R | S |
|---|---|---|---|---|---|---|---|
| 2-19-W | 30½ | 50⅜ | 14¾ | 8½ x 11¾ | 8 | 57⅝ | 15¾ |
| 3-19-W | 30½ | 54⅞ | 14¾ | 8½ x 11¾ | 8 | 62½ | 15¾ |
| 2-22-W | 35 | 52¼ | 16¼ | 9⅝ x 13¾ | 9 | 60½ | 16 |
| 3-22-W | 35 | 57¼ | 16¼ | 9⅝ x 13¾ | 9 | 64¾ | 16 |
| 2-25-W | 38 | 55 | 17½ | 9⅝ x 13¾ | 9 | 63½ | 16 |
| 3-25-W | 38 | 60 | 17½ | 9⅝ x 13¾ | 9 | 68½ | 16 |
| 2-28-W | 41⅜ | 55½ | 17¾ | 9⅝ x 18 | 10 | 63¼ | 18 |
| 3-28-W | 41⅜ | 60½ | 17¾ | 9⅝ x 18 | 10 | 68¼ | 18 |
| 2-31-W | 44⅛ | 59 | 18 | 9⅝ x 18 | 10 | 67⅝ | 19½ |
| 3-31-W | 44⅛ | 64¾ | 18 | 9⅝ x 18 | 10 | 74⅜ | 19½ |
| 2-34-W | 48⅞ | 61⅝ | 19 | 9⅝ x 18 | 11 | 70⅜ | 20 |
| 3-34-W | 48⅞ | 66⅝ | 19 | 9⅝ x 18 | 11 | 75⅜ | 20 |

# TRIUMPH

## SECTIONAL BOILER MEASUREMENTS.




Front View.




Sectional View.

For details of measurements see page opposite.

# TRIUMPH SECTIONAL BOILER MEASUREMENTS—Continued.

Table of distances between points as noted upon the outline drawings of TRIUMPH Sectional Boilers shown on opposite page. These measurements are all given in inches.

| | 15 inch Boilers | | 18 inch Boilers | | 21 inch Boilers | | 24 inch Boilers | | 30 inch Boilers | | 36 inch Boilers | | 48 inch Boilers | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Water | Steam | Water | Steam | Water | Steam | Water | Steam | Water | Steam | Water | Steam | Water | Steam |
| A | 27½ | 28½ | 28 | 28 | 39 | 40 | 40½ | 40½ | 50 | 51 | 57½ | 61⅛ | 68 | 69 |
| B | 42 7/16 | 46 3/16 | 52 | 55⅛ | 54⅞ | 58⅜ | 58¾ | 61⅝ | 65¼ | 69⅜ | 71½ | 71½ | 81¾ | 81¾ |
| †C | 13 5/16 | 13 5/16 | 11 11/16 | 11 11/16 | 15¼ | 15¼ | 14 1/16 | 14 1/16 | 20¾ | 20¾ | ‡10¼ | ‡10¼ | 27¼ | 27¼ |
| D | 40⅞ | 40⅞ | 47½ | 47½ | 50⅝ | 50⅝ | 54 3/16 | 54 3/16 | 61 | 61 | 61¼ | 61¼ | 73⅛ | 73⅛ |
| E | 34¾ | 34¾ | 41⅜ | 41⅜ | 43¼ | 43¼ | 46⅞ | 46⅞ | 52¼ | 52¼ | 52¼ | 52¼ | 59½ | 59½ |
| F | 12 | 12 | 12 | 12 | 14 | 14 | 14½ | 14½ | 14 | 14 | 16½ | 16½ | 21½ | 21½ |
| G | 18 | 18 | 18 | 18 | 21 | 21 | 21¾ | 21¾ | 21 | 21 | 24¾ | 24¾ | 32¼ | 32¼ |
| H | 24 | 24 | 24 | 24 | 28 | 28 | 29 | 29 | 28 | 28 | 33 | 33 | 43 | 43 |
| I | 16 3/16 | 16 3/16 | 15 13/16 | 15 13/16 | 17 7/16 | 17 7/16 | 18¾ | 18¾ | 18⅞ | 18⅞ | 20½ | 20½ | 22⅜ | 22⅜ |
| J | 23¾ | 23¾ | 26⅝ | 26⅝ | 30¾ | 30¾ | 33½ | 33½ | 40 | 40 | 49½ | 49½ | 58⅜ | 58⅜ |
| K | 8x14 | 8x14 | 8½x17 | 8½x17 | 9¼x17¾ | 9¼x17¾ | 9x18 | 9x18 | 9x20 | 9x20 | 10¾x19½ | 10¾x19½ | 11x19 | 11x19 |
| M | ..... | 38¼ | ..... | 44½ | ..... | 48 | ..... | 49½ | ..... | 58½ | ..... | 61 | ..... | 70 |
| N | 11¾ | 11¾ | 12 3/16 | 12 3/16 | 12⅜ | 12⅜ | 14 | 14 | 13⅞ | 13⅞ | 14 | 14 | 14 11/16 | 14 11/16 |
| P | 8 | 8 | 8 | 8 | 10 | 10 | 12 | 12 | 13 | 13 | §14½ | §14½ | 21 | 21 |
| S | 13¼ | 13¼ | 11⅜ | 11⅜ | 14¾ | 14¾ | 11 5/16 | 11 5/16 | 16⅝ | 16⅝ | 14⅛ | 14⅛ | 17¾ | 17¾ |
| T | 7½ | 7½ | 8¼ | 8¼ | 8½ | 8½ | 9½ | 9½ | 8½ | 8½ | 12½ | 12½ | ..... | ..... |

† Measured without Smoke Hood Cover. ‡ Except in No. 369 and No. 069 the Smoke Hood length is 10½ inches.
§ Except Nos. 369 and 069, in which the measurement is 16 inches.
Do not both flow pipe outlets—connect all of them full size to the main.

# STANDARD DIMENSIONS OF STEAM HEATING BOILERS — WITHOUT DOMES.

## TESTED FOR 100 LBS.—WORKING PRESSURE.

| Diameter, Ins. | Length, Feet. | Thickness of Shell. | Thickness of Heads. | Tubes. | | Heating Surface. | Horse Power at 15 sq. ft. | Shipping Weight. | Diam. of Stack. | List Price. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | No. | Diam. | | | | | |
| 30 | 8 | 1/4 | 5/16 | 22 | 3 | 178 | 12 | 2800 | 13 | $430 00 |
| 30 | 10 | 1/4 | 5/16 | 29 | 3 | 222 | 14 | 3300 | 13 | 468 00 |
| 36 | 10 | 1/4 | 5/16 | 32 | 3 | 313 | 21 | 4550 | 16 | 580 00 |
| 36 | 12 | 1/4 | 5/16 | 32 | 3 | 374 | 25 | 5050 | 16 | 632 00 |
| 40 | 10 | 1/4 | 5/16 | 38 | 3 | 369 | 24 | 5200 | 18 | 660 00 |
| 40 | 12 | 1/4 | 5/16 | 38 | 3 | 441 | 29 | 5750 | 18 | 682 00 |
| 42 | 10 | 1/4 | 5/16 | 40 | 3 | 389 | 26 | 5700 | 18 | 700 00 |
| 42 | 12 | 1/4 | 5/16 | 40 | 3 | 464 | 31 | 6300 | 18 | 752 00 |
| 44 | 10 | 1/4 | 5/16 | 44 | 3 | 424 | 28 | 6050 | 22 | 752 00 |
| 44 | 12 | 1/4 | 5/16 | 44 | 3 | 507 | 34 | 6700 | 22 | 800 00 |
| 48 | 10 | 5/16 | 5/16 | 52 | 3 | 495 | 33 | 7400 | 22 | 880 00 |
| 48 | 12 | 5/16 | 5/16 | 52 | 3 | 594 | 39 | 8150 | 22 | 940 00 |
| 48 | 14 | 5/16 | 5/16 | 52 | 3 | 686 | 46 | 8950 | 22 | 1050 00 |
| 52 | 12 | 5/16 | 5/16 | 58 | 3 | 658 | 44 | 9100 | 24 | 1068 00 |
| 52 | 14 | 5/16 | 5/16 | 58 | 3 | 764 | 51 | 10000 | 24 | 1126 00 |
| 54 | 12 | 5/16 | 5/16 | 64 | 3 | 720 | 48 | 9600 | 26 | 1115 00 |
| 54 | 14 | 5/16 | 5/16 | 64 | 3 | 836 | 56 | 10650 | 26 | 1208 00 |
| 60 | 12 | 5/16 | 5/16 | 78 | 3 | 865 | 57 | 11400 | 26 | 1300 00 |
| 60 | 14 | 5/16 | 5/16 | 78 | 3 | 1005 | 67 | 12400 | 26 | 1450 00 |

NOTE—A horse power for low pressure heating purposes is considered equivalent to 100 square feet gross radiation.

NOTE—While we quote a regular discount on these boilers, on account of the continued variations in the metal market, it is advisable to write and get our net prices for these when required.

# STANDARD
## STEAM, GAS AND WATER PIPE.

### BLACK AND GALVANIZED.

| Nominal Size Inside Diameter. Inches. | Price per foot Black. $ c. | Nominal Thickness. Inches. | Nominal Weight per foot. Pounds. | No. of Threads per inch of Screw. | Threading Price List. |
|---|---|---|---|---|---|
| ⅛ | 5½ | .068 | 0.24 | 27 | .05 |
| ¼ | 5½ | .088 | 0.42 | 18 | .05 |
| ⅜ | 5½ | .091 | 0.56 | 18 | .05 |
| ½ | 8½ | .109 | 0.84 | 14 | .05 |
| ¾ | 11½ | .113 | 1.12 | 14 | .05 |
| 1 | 16½ | .134 | 1.67 | 11½ | .06 |
| 1¼ | 22½ | .140 | 2.24 | 11½ | .07 |
| 1½ | 27 | .145 | 2.68 | 11½ | .08 |
| 2 | 36 | .154 | 3.61 | 11½ | .10 |
| 2½ | 57½ | .204 | 5.74 | 8 | .15 |
| 3 | 75½ | .217 | 7.54 | 8 | .20 |
| 3½ | 95 | .226 | 9.00 | 8 | .25 |
| 4 | 1 08 | .237 | 10.66 | 8 | .35 |
| 4½ | 1 30 | .246 | 12.49 | 8 | .45 |
| 5 | 1 45 | .259 | 14.50 | 8 | .55 |
| 6 | 1 88 | .280 | 18.76 | 8 | .70 |
| 7 | 2 35 | .301 | 23.27 | 8 | .85 |
| 8 | 2 82 | .322 | 28.18 | 8 | 1.00 |
| 9 | 3 40 | .344 | 33.70 | 8 | 1.25 |
| 10 | 4 25 | .366 | 40.00 | 8 | 1.50 |
| 11 | 4 75 | .375 | 45.00 | 8 | 2.50 |
| 12 | 5 20 | .375 | 49.00 | 8 | 2.50 |

# RADIATOR VALVES.

| SIZE | ½ | ¾ | 1 | 1¼ | 1½ | 2 |
|---|---|---|---|---|---|---|
| | $ | $ c. | $ c. | $ c. | $ c. | $ c. |
| N.P. W.W. Standard, without union | ..... | 2 10 | 2 75 | 3 70 | 4 85 | 7 60 |
| " " with union.... | ..... | 2 90 | 3 75 | 5 00 | 6 50 | 10 00 |
| N. P. Quick Opening, angle or straightway, without union ..... | ..... | 1 95 | 2 65 | 3 70 | 5 00 | 7 75 |
| N. P. Quick Opening, angle or straightway, with union ..... | ..... | 2 85 | 3 65 | 5 05 | 7 10 | 10 85 |
| N.P. W.W. Standard Globe, without union..... | 1 70 | 2 10 | 2 75 | 3 70 | 4 85 | 7 60 |
| N.P. Radiator elbows, with union .... | ..... | 2 00 | 2 50 | 3 20 | 4 00 | 7 00 |
| Jenkins or D.R. N.P. mt'gs, without union..... | 2 30 | 2 80 | 3 50 | 4 80 | 6 55 | 10 80 |
| Jenkins or D.R. N.P. mtgs, with union..... | 3 05 | 3 80 | 4 60 | 6 15 | 8 05 | 12 90 |
| Jenkins or D.R. N.P. all over, without union..... | 2 40 | 2 90 | 3 60 | 4 90 | 6 65 | 10 90 |
| Jenkins or D.R. N.P. all over, with union..... | 3 15 | 3 90 | 4 70 | 6 25 | 8 15 | 13 00 |
| Jenkins or D.R., W.W. N.P. Globe, without union ..... | 2 40 | 2 90 | 3 60 | 4 90 | 6 65 | 10 90 |
| N.P. Gate W.W. without union..... | 2 00 | 2 60 | 3 45 | 4 70 | 6 35 | 9 80 |
| " with union ..... | 3 10 | 3 75 | 4 65 | 6 10 | 7 85 | 12 10 |
| N.P. Govt Pattern, fin. all over Elbow Gate valves, without union. | | 4 35 | 5 45 | 6 60 | 7 90 | 11 00 |

# RADIATOR AIR VALVES.

| | | |
|---|---|---|
| Compression, wood wheel..... | Per doz..... | $ 2 50 |
| " metal wheel..... | " ..... | 4 50 |
| " loose key..... | " ..... | 2 50 |
| Loose Keys, extra..... | " ..... | 1 00 |
| Automatic, hot water..... | " ..... | 20 00 |
| Jenkins, automatic..... | " ..... | 10 00 |
| " cups extra ..... | " ..... | 2 50 |
| Allen, automatic..... | " ..... | 15 00 |
| Norwall, automatic..... | " ..... | 22 50 |
| Monash No. 6, automatic..... | " ..... | 30 00 |
| Monash No. 7, " ..... | " ..... | 35 00 |
| Davis No. 7 " ..... | " ..... | 20 00 |
| Libra..... | " ..... | 13 00 |
| No. 2, automatic..... | " ..... | 20 00 |
| No. 5, automatic ..... | " ..... | 10 00 |
| Extension Pieces ..... | " ..... | 3 00 |

# STANDARD BRASS VALVES, BRASS AND IRON COCKS.

| SIZES | ⅛ | ¼ | ⅜ | ½ | ¾ | 1 | 1¼ | 1½ | 2 | 2½ | 3 | 3½ | 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. |
| Standard Globe | .... | 72 | 77 | 1 00 | 1 26 | 1 80 | 2 52 | 3 50 | 5 30 | 10 00 | 14 40 | 26 50 | 36 00 |
| " Angle | .... | 72 | 77 | 1 00 | 1 26 | 1 80 | 2 52 | 3 50 | 5 30 | 10 00 | 14 40 | 26 50 | 36 00 |
| " Peet | .... | .... | .... | 1 30 | 1 75 | 2 50 | 3 50 | 5 00 | 7 50 | .... | .... | .... | .... |
| " Gate | .... | .... | .... | 1 30 | 1 75 | 2 25 | 3 25 | 4 25 | 6 25 | .... | .... | .... | .... |
| Jenkins or D.R. Globe | .... | 1 10 | 1 25 | 1 60 | 2 20 | 2 80 | 4 00 | 5 50 | 8 75 | 15 75 | 22 00 | .... | .... |
| Jenkins or D.R. Angles | .... | 1 10 | 1 25 | 1 60 | 2 20 | 2 80 | 4 00 | 5 50 | 8 75 | 15 75 | 22 00 | .... | .... |
| Standard Horizontal Check | .... | 65 | 70 | 90 | 1 15 | 1 60 | 2 25 | 3 15 | 4 75 | 9 00 | 13 00 | 24 00 | 32 50 |
| Standard Vertical and Angle Check | .... | 72 | 77 | 1 00 | 1 26 | 1 80 | 2 52 | 3 50 | 5 30 | .... | .... | .... | .... |
| Swing Check | .... | .... | 2 15 | 2 25 | 2 75 | 3 50 | 4 25 | 5 50 | 7 50 | 15 00 | 22 00 | .... | .... |
| Jenkins or D.R. Check | .... | .... | 1 20 | 1 30 | 1 90 | 2 60 | 3 60 | 5 00 | 7 50 | 13 50 | .... | .... | .... |
| Expansion Joints, Brass | .... | .... | .... | 1 50 | 2 20 | 2 75 | 4 00 | 5 00 | 8 00 | 17 50 | 24 00 | .... | .... |
| Steam Cocks, Sq. Head, Brass | .... | 85 | 1 00 | 1 25 | 1 70 | 2 35 | 3 70 | 4 85 | 7 30 | 14 50 | 22 50 | 38 50 | 50 00 |
| " " Three-way, Brass | .... | .... | 2 10 | 2 50 | 3 0[illegible] | 3 75 | 5 75 | 7 15 | 11 00 | 18 75 | 26 00 | 50 00 | 70 00 |
| " " Iron | .... | .... | .... | 90 | 1 0[illegible] | 1 30 | 1 60 | 1 95 | 2 70 | 4 40 | 6 75 | 12 00 | 15 50 |
| " " " with brass washer | .... | .... | .... | 1 00 | 1 20 | 1 55 | 1 95 | 2 35 | 3 20 | 5 15 | 7 75 | 14 00 | 19 00 |
| " " " brass plug | .... | .... | .... | 1 30 | 1 60 | 1 90 | 2 65 | 3 75 | 5 25 | 8 75 | 13 00 | 27 50 | 35 50 |
| " " " three-way | .... | .... | .... | .... | 1 65 | 1 80 | 2 05 | 2 65 | 3 65 | 5 35 | 7 50 | 14 00 | 19 00 |
| " " " with brass washer | .... | .... | .... | .... | 1 80 | 2 05 | 2 40 | 3 05 | 4 15 | 6 10 | 8 50 | 16 00 | 22 50 |
| " " " brass plug | .... | .... | .... | .... | 2 20 | 2 40 | 3 10 | 4 50 | 6 25 | 9 75 | 13 75 | 30 00 | 40 00 |
| Pet Cocks, T Handle | 40 | 40 | 50 | 60 | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Pet Cocks, L Handle | 55 | 55 | 65 | 75 | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Rough Stop Cocks, T handle, per doz. | .... | .... | 15 00 | 17 00 | 26 00 | 38 00 | .... | .... | .... | .... | .... | .... | .... |
| " " L " | .... | .... | 15 00 | 17 00 | 26 00 | 38 00 | .... | .... | .... | .... | .... | .... | .... |
| Rough Stop Waste Cocks, T handle, per doz. | .... | .... | 17 00 | 19 00 | 28 00 | 41 00 | .... | .... | .... | .... | .... | .... | .... |
| " " L " " | .... | .... | 17 00 | 19 00 | 28 00 | 41 00 | .... | .... | .... | .... | .... | .... | .... |
| Foot Valves, Standard, Scd, Iron | .... | .... | .... | .... | 1 15 | 1 30 | 1 40 | 1 90 | 2 40 | 3 30 | 3 90 | 5 60 | 7 30 |
| " " Flg'd " | .... | .... | .... | .... | .... | .... | .... | .... | 3 50 | 4 50 | 5 75 | 7 50 | 9 50 |
| " Galvanized, Scd " | .... | .... | .... | .... | 1 75 | 2 00 | 2 10 | 2 85 | 3 60 | 5 00 | 5 75 | 8 50 | 11 00 |

# STANDARD IRON BODY VALVES.

| Sizes. | | 1¼ | 1½ | 2 | 2½ | 3 | 3½ | 4 | 4½ | 5 | 6 | 7 | 8 | 10 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. |
| Globe & Ang. Val. without Y'ke.... | Scd., ea | .... | ..... | 5 40 | 7 35 | 9 80 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| " " " " .... | Flg'd, " | .... | .... | 7 00 | 9 00 | 12 50 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| " " with " .... | Scd., " | .. | .... | 7 00 | 9 00 | 12 50 | 15 25 | 19 00 | 24 00 | 27 00 | 37 50 | 63 00 | 72 00 | 114 00 | 170 00 |
| " " " " .... | Flg'd, " | .... | ..... | 8 60 | 10 75 | 15 00 | 18 50 | 22 50 | 27 50 | 31 00 | 42 00 | 68 00 | 77 00 | 123 00 | 187 00 |
| " Jenk. Disc, without Y'ke. | Scd., " | .... | ..... | 7 25 | 11 00 | 16 00 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| " " " " | Flg'd, " | .... | ..... | 8 50 | 13 00 | 18 00 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| " " with " | Scd., " | .... | ..... | 10 00 | 12 00 | 16 75 | 19 50 | 24 00 | 32 00 | 40 00 | 48 00 | 80 00 | 90 00 | 130 00 | 185 00 |
| " " " " | Flg'd, " | .... | .... | 11 75 | 14 00 | 18 50 | 21 50 | 26 00 | 34 00 | 42 00 | 50 00 | 80 00 | 90 00 | 130 00 | 185 00 |
| Horizontal Check Valves ..... | Scd., " | ... | .... | 3 60 | 6 50 | 8 90 | 12 25 | 14 25 | 19 00 | 22 00 | 30 00 | 45 00 | 57 00 | 105 00 | 155 00 |
| Angle " ..... | Scd., " | ... | ..... | 3 60 | 6 50 | 8 90 | 12 25 | 14 25 | 19 00 | 22 00 | 30 00 | 45 00 | 57 00 | 105 00 | 155 00 |
| Horizontal " ..... | Flg'd, " | .... | ..... | 5 25 | 8 25 | 11 50 | 15 50 | 18 00 | 22 50 | 26 00 | 35 00 | 50 00 | 62 00 | 115 00 | 175 00 |
| Angle " ..... | Flg'd, " | .... | ..... | 5 25 | 8 25 | 11 50 | 15 50 | 18 00 | 22 50 | 26 00 | 35 00 | 50 00 | 62 00 | 115 00 | 175 00 |
| Vertical " ..... | Scd., " | .... | ..... | 7 00 | 9 50 | 12 50 | 17 00 | 21 00 | 30 00 | 33 00 | 40 00 | 62 00 | 73 00 | 125 00 | ..... |
| " " ..... | Flg'd, " | ... | ..... | 8 75 | 11 50 | 15 00 | 20 00 | 25 00 | 33 50 | 37 00 | 45 00 | 67 00 | 78 00 | 135 00 | ..... |
| Cross Safety Valves ..... | Scd., " | 5 00 | 5 80 | 7 80 | 13 25 | 17 25 | 23 00 | 28 75 | 34 50 | 41 50 | 57 75 | 98 50 | 132 00 | ..... | ..... |
| Angle " ..... | Scd., " | 5 00 | 5 80 | 7 80 | 13 25 | 17 25 | 23 00 | 28 75 | 34 50 | 41 50 | 57 75 | 98 50 | 132 00 | ..... | ..... |
| Cross " ..... | Flg'd, " | .... | ..... | 10 25 | 16 00 | 21 50 | 27 50 | 34 00 | 40 00 | 48 00 | 65 00 | 100 00 | 140 00 | ..... | ..... |
| Angle " ..... | Flg'd, " | .... | ..... | 10 25 | 16 00 | 21 50 | 27 50 | 34 00 | 40 00 | 48 00 | 65 00 | 100 00 | 140 00 | ..... | ..... |
| Swing Check Valves ..... | Scd., " | .... | ..... | ..... | 15 00 | 18 00 | 24 00 | 27 00 | ..... | 38 00 | 48 00 | 62 00 | 75 00 | 125 00 | ..... |
| " " ..... | Flg'd, " | .... | ..... | ..... | 17 00 | 21 00 | 27 00 | 30 00 | ..... | 42 00 | 52 00 | 67 00 | 80 00 | 135 00 | ..... |
| Jenkins Disc Check Valves..... | Scd., " | .... | ..... | ..... | 10 50 | 14 00 | 17 00 | 20 00 | 25 00 | 30 00 | 40 00 | ..... | ..... | ..... | ..... |
| " " ..... | Flg'd, " | .... | ..... | ..... | 12 50 | 16 50 | 20 00 | 23 00 | 28 00 | 33 00 | 43 00 | ..... | ..... | ..... | ..... |
| Expansion Joints, Iron Body ..... | Scd., " | .... | ..... | 7 00 | 8 00 | 10 00 | 14 00 | 18 00 | ..... | 38 00 | 45 00 | 70 00 | 100 00 | 160 00 | 225 00 |
| " " " ..... | Flg'd, " | .... | ..... | 15 00 | 16 00 | 18 50 | 25 00 | 30 00 | ..... | 48 00 | 55 00 | 80 00 | 110 00 | 175 00 | 250 00 |
| Exp. Jts, Ir. Body, 6" Trav'se ..... | Scd., " | .... | ..... | 11 00 | 13 00 | 17 50 | 25 00 | 30 00 | 40 00 | 45 00 | 56 00 | ..... | ..... | ..... | ..... |
| " " " ..... | Flg'd, " | .... | ..... | 18 00 | 20 00 | 25 00 | 35 00 | 40 00 | 50 00 | 55 00 | 65 00 | ..... | ..... | ..... | ..... |
| Weber Valves ..... | Scd., " | .... | ..... | 10 00 | [illegible] | 15 00 | 18 00 | 20 00 | 23 00 | 26 00 | 32 00 | 45 00 | 55 00 | 90 00 | 125 00 |
| " ..... | Flg'd, " | .... | ..... | 10 00 | 12 00 | 15 00 | 18 00 | 20 00 | 23 00 | 26 00 | 32 00 | 45 00 | 55 00 | 90 00 | 125 00 |

# MALLEABLE IRON FITTINGS.

## Classification.

| CLASS | A | B | C | D | E |
|---|---|---|---|---|---|
| List Price per pound } Black ... | 40c. | 26c. | 16c. | 13c. | 11c. |
| List Price per pound } Galvan'zd | 50c. | 35c. | 23c. | 20c. | 18c. |
| Elbows | ⅛, ¼x⅛, ⅜x⅛ | ¼, ⅜, ⅜x¼, ½x¼ | ½, ½ x ⅜ | ¾, 1 | 1¼ and larger |
| Elbows, R. and L | ¼, ⅜ | ½ | ¾, 1 | 1¼ and larger | ... ..... |
| Elbows, 45° | ..... | ½ and smaller | ¾ to 2 | 2½ and larger | ..... |
| Elbows, Straight | ..... | ¼, ⅜ | ½, ¾, ¾x½, 1x¾ | 1 and larger | ..... |
| Elbows, Drop | ..... | ½ and smaller | ¾ and larger | ..... | ..... |
| Elbows, Side Outlet | ..... | ½ and smaller | ¾ and larger | ..... | ..... |
| Tees | ⅛, ¼x⅛, ⅜x⅛ | ¼, ⅜, ⅜x¼ | ½ & ½ reducing | ¾, 1 | 1¼ and larger |
| Tees, Four Way | ..... | ½ and smaller | ¾ and larger | ..... | ..... |
| Tees, Drop | ..... | ½ and smaller | ¾ and larger | ..... | ..... |
| Crosses, straight | ..... | ¼, ⅜ and ½ | ¾ and 1 | 1¼ and larger | ..... |
| Crosses, Reducing | ..... | 1 and smaller | ..... | 1¼ and larger | ..... |
| Return Bends | ..... | ⅜, ½ | ¾, 1 | 1¼ and larger | ..... |
| Return Bends, R. & L | ⅜, ½ | ¾, 1 | 1¼ and larger | ..... | ..... |
| Couplings, R. H. | ⅛ | ¼, ⅜ | ½, ¾ | 1, 1¼ | 1½, 2 |
| Couplings, R. and L. | ⅛ | ¼, ⅜ | ½, ¾ | 1 and larger | ..... |
| Couplings, Red. | ¼x⅛, ⅜x⅛ | ⅜x¼ to ¾x⅜ | ¾x½ to 1x¾ | 1¼ and larger | ..... |
| Caps | ..... | ¼, ⅜ | ½ to 1 | 1¼ and larger | ..... |
| Locknuts | ..... | ¼ to ½ | ¾ to 1¼ | 1½ and larger | ..... |
| Extension Pieces | ..... | ⅜, ½ | ¾ and larger | ..... | ..... |

NOTE—Fittings in Class D having one or more outlets smaller than ¾ inch will be charged to Class C.
Fittings in Class E having one or more outlets smaller than 1 inch will be charged to Class D.

# CAST IRON FITTINGS.

| Sizes | ¼ | ⅜ | ½ | ¾ | 1 | 1¼ | 1½ | 2 | 2½ | 3 | 3½ | 4 | 4½ | 5 | 6 | 7 | 8 | 9 | 10 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | c. | c. | c. | c. | c. | c. | c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. |
| Elbows, C. I | .. | .. | 06 | 08 | 10½ | 16 | 20 | 28 | 50 | 75 | 1 05 | 1 20 | 1 75 | 2 00 | 2 75 | 4 70 | 6 75 | 9 00 | 13 50 | 20 00 |
| " " Reducing | .. | .. | 07 | 09 | 12 | 18 | 23 | 32 | 60 | 85 | 1 20 | 1 40 | 2 00 | 2 30 | 3 15 | 5 40 | 7 75 | 10 50 | 15 50 | 23 00 |
| " " R. and L | .. | .. | 07 | 09 | 12 | 18 | 23 | 32 | 60 | 85 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| " " 45° | .. | .. | 07 | 10 | 12 | 19 | 24 | 34 | 60 | 90 | 1 25 | 1 45 | 2 20 | 2 50 | 3 45 | 5 90 | 8 50 | 11 25 | 17 00 | 25 00 |
| Tee | .. | .. | 09 | 12 | 15 | 23 | 29 | 41 | 73 | 1 10 | 1 50 | 1 75 | 2 55 | 3 00 | 4 00 | 6 80 | 9 75 | 13 00 | 19 50 | 29 00 |
| " Reducing | .. | .. | 10 | 14 | 17 | 27 | 33 | 47 | 83 | 1 25 | 1 75 | 2 00 | 2 95 | 3 50 | 4 60 | 7 80 | 11 25 | 15 00 | 22 50 | 33 50 |
| Crosses | .. | .. | .. | .. | 27 | 42 | 53 | 75 | 1 20 | 2 00 | 2 70 | 3 15 | 4 60 | 5 50 | 7 25 | 12 25 | 17 50 | 23 50 | 35 00 | 52 50 |
| " Reducing | .. | .. | 18 | 25 | 30 | 46 | 60 | 83 | 1 45 | 2 20 | 3 00 | 3 50 | 5 00 | 6 00 | 8 00 | 13 50 | 19 25 | 26 00 | 38 50 | 58 00 |
| Return Bends, Close | .. | .. | .. | .. | 22 | 28 | 40 | 57 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| " " Open | .. | .. | .. | .. | 30 | 40 | 55 | 80 | 1 35 | 2 20 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| " " Pitched | .. | .. | .. | .. | 26 | 33 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Caps. C. I | .. | .. | .. | .. | .... | .... | .... | 26 | 40 | 54 | 75 | 87 | 1 05 | 1 20 | 1 55 | 2 60 | 2 85 | 4 75 | 5 80 | 7 00 |
| Reducers, C. I | .. | .. | .. | .. | .... | .... | .... | 43 | 60 | 80 | 1 00 | 1 35 | 1 85 | 2 00 | 2 70 | 5 25 | 6 75 | 8 25 | 10 00 | 15 00 |
| " Eccentric, C.I. | .. | .. | .. | .. | .... | .... | .... | 1 00 | 1 50 | 2 40 | 3 00 | 4 00 | 5 00 | 6 00 | 8 00 | 9 00 | 11 00 | 12 50 | 14 00 | 18 00 |
| Locknuts, C. I | .. | .. | .. | .. | .... | .... | .... | 25 | 27 | 34 | 47 | 64 | 85 | 90 | 1 30 | 1 70 | 2 35 | 2 70 | 3 00 | 4 00 |
| Couplings. W. I | 05 | 06 | 07 | 10 | 13 | 17 | 21 | 28 | 40 | 60 | 85 | 1 00 | 1 50 | 1 65 | 2 40 | 3 25 | 4 25 | 5 50 | 7 50 | 10 00 |
| Hexagon R&L Nipples | .. | .. | .. | 25 | 30 | 40 | 50 | 70 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Plugs, R. H | 02 | 02 | 02 | 03 | 04 | 05 | 07 | 19 | 13 | 25 | 38 | 42 | 65 | 88 | 1 20 | 1 85 | 2 75 | 3 25 | 3 75 | 5 00 |
| " Left | .. | .. | .. | 06 | 08 | 09 | 11 | 15 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| " R.H., Galv'd | 04 | 04 | 04 | 06 | 08 | 10 | 14 | 20 | [illegible] | 50 | 76 | 84 | .... | .... | .... | .... | .... | .... | .... | .... |
| " Solid | .. | .. | 04 | 06 | 08 | 09 | 11 | 15 | [illegible] | 38 | 57 | 63 | 1 00 | 1 35 | 1 80 | .... | .... | .... | .... | .... |
| " Countersunk | .. | .. | 04 | 06 | 08 | 09 | 11 | 15 | 30 | 40 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Bushings, R.H. | .. | 04 | 04 | 05 | 06 | 07 | 09 | 14 | 21 | 30 | 40 | 50 | 75 | 98 | 1 25 | 1 87 | 2 75 | 3 25 | 3 75 | 5 00 |
| " Left | .. | 08 | 08 | 10 | 12 | 14 | 18 | 28 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| " R.H., Galv'd | .. | 08 | 08 | 10 | 12 | 14 | 18 | 28 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| " Faced | .. | 08 | 09 | 11 | 13 | 17 | 22 | 32 | 43 | 70 | 1 20 | 1 50 | 2 10 | 2 60 | 3 75 | .... | .... | .... | .... | .... |
| O/S Division Tees | .. | .. | .. | .. | 60 | 80 | 90 | 1 20 | 2 00 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Eureka Circul't'g Tees | .. | .. | .. | .. | .... | .... | .... | 90 | 1 30 | 1 50 | 1 90 | 2 20 | 3 20 | 3 70 | 4 90 | .... | 15 00 | .... | .... | .... |
| Range Boiler Couplgs | .. | .. | 60 | 75 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Crossovers, Black | .. | .. | 20 | 30 | 45 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| " Galv'd | .. | .. | 25 | 40 | 60 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |

## LONG SWEEP (WATER) FITTINGS.

| Sizes | 1 | 1¼ | 1½ | 2 | 2½ | 3 | 3½ | 4 | 4½ | 5 | 6 | 7 | 8 | 9 | 10 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. |
| No. 1 Water Elbows, CI | 32 | 40 | 55 | 80 | 1 20 | 2 25 | 3 25 | 3 50 | 5 50 | 6 50 | 8 75 | 13 00 | 17 00 | 25 50 | 30 00 | 40 00 |
| No. 2 Dbl. Water Elbows | 64 | 80 | 1 10 | 1 60 | 2 40 | 4 50 | 6 50 | 7 00 | 11 00 | 13 00 | 17 50 | 26 00 | 34 00 | 51 00 | 60 00 | 80 00 |
| No. 3 Water Tees | 48 | 60 | 82 | 1 20 | 1 80 | 3 40 | 4 90 | 5 25 | 8 25 | 9 75 | 13 25 | 19 50 | 25 50 | 38 00 | 45 00 | 60 00 |
| No. 4 Water Crosses | 85 | 1 10 | 1 50 | 2 15 | 3 20 | 6 00 | 8 75 | 9 50 | 15 00 | 17 50 | 24 00 | 35 00 | 45 00 | 68 00 | 80 00 | 107 00 |
| No. 1 Water Elbows, Red'g | 48 | 60 | 83 | 1 20 | 1 80 | 3 38 | 4 88 | 5 25 | 8 25 | 9 75 | 13 13 | 19 50 | 25 50 | 38 25 | 45 00 | 60 00 |
| No. 2 Dbl. W. Elbows, Red'g | 96 | 1 20 | 1 65 | 2 40 | 3 60 | 6 75 | 9 75 | 10 50 | 16 50 | 19 50 | 26 25 | 39 00 | 51 00 | 76 50 | 90 00 | 120 00 |
| No. 3 W. Tees Red'g | 72 | 90 | 1 23 | 1 80 | 2 70 | 5 10 | 7 35 | 7 88 | 12 38 | 14 63 | 19 88 | 29 25 | 38 25 | 57 00 | 67 50 | 90 00 |
| No. 4 Water Crosses, Red'g | .. | 1 65 | 2 25 | 3 23 | 4 80 | 9 00 | 13 13 | 14 25 | ..... | 26 25 | 36 00 | 52 50 | 67 50 | 102 00 | 120 00 | 160 50 |

## PIPE HANGERS.

| Sizes | ½ | ¾ | 1 | 1¼ | 1½ | 2 | 2½ | 3 | 3½ | 4 | 4½ | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. |
| Exp. Ring Hangers, Complete | .... | 17 | 18 | 19 | 25 | 29 | 36 | 44 | 55 | 63 | 90 | 1 12 | 1 35 | 1 80 | 2 25 | .... | .... |
| " " without plates | .... | 08 | 12 | 15 | 20 | 25 | 30 | 40 | 50 | 60 | 80 | 1 00 | 1 25 | 1 70 | 2 15 | .... | .... |
| Grabler Hangers | 20 | 20 | 22 | 24 | 28 | 30 | 32 | 40 | 44 | 48 | 51 | 54 | 60 | 85 | 1 25 | 1 60 | 1 90 |
| " Extension Bar, 10 foot lengths, per foot | 08 | 08 | 08 | 08 | 08 | 09 | 09 | 09 | 10 | 10 | 10 | 10 | 10 | 20 | 20 | 25 | 28 |
| Ring Stays, short, black..per 100 | 5 00 | 5 80 | 6 75 | 7 50 | 10 00 | 14 00 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| " " galvanized " | 6 50 | 7 00 | 8 00 | 9 00 | 12 00 | 16 00 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| " long, black " | 6 50 | 8 00 | 10 00 | 12 00 | 15 00 | 20 00 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| " " galvanized " | 8 00 | 10 00 | 12 00 | 14 00 | 18 00 | 24 00 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |

## BLACK AND GALVANIZED UNION.

| Size | ¼ | | ⅜ | | ½ | | ¾ | | 1 | | 1¼ | | 1½ | | 2 | | 2½ | | 3 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | B | G | B | G | B | G | B | G | B | G | B | G | B | G | B | G | B | G | B | G |
| | c. | c. | c. | c. | c. | c. | c. | c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. |
| Lip | 18 | 27 | 20 | 30 | 22 | 33 | 27 | 40 | 33 | 50 | 46 | 70 | 58 | 90 | 75 | 1 15 | 1 55 | 2 35 | 2 10 | 3 15 |
| Jefferson | 30 | 45 | 40 | 60 | 50 | 75 | 60 | 90 | 80 | 1 20 | 1 20 | 1 80 | 1 60 | 2 40 | 2 00 | 3 00 | 3 20 | 4 80 | 4 80 | 7 20 |
| Kewanee | 19 | 23 | 22 | 26 | 27 | 34 | 40 | 49 | 48 | 60 | 66 | 82 | 80 | 1 10 | 1 14 | 1 40 | 2 10 | 2 75 | 2 65 | 3 50 |

## FLANGE UNIONS.

| Size | 1 | 1¼ | 1½ | 2 | 2½ | 3 | 3½ | 4 | 4½ | 5 | 6 | 7 | 8 | 10 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. |
| Standard | 52 | 64 | 78 | 1 00 | 1 25 | 1 50 | 1 80 | 2 10 | 2 70 | 3 15 | 3 95 | 5 50 | 7 00 | 11 50 | 16 00 |
| Jefferson | 80 | 1 20 | 1 60 | 2 00 | 3 20 | 4 80 | 6 00 | 7 50 | 8 75 | 10 00 | 12 50 | 15 00 | 18 00 | 28 80 | ... .. |

## GRABLER STEEL HOOK PLATES.

| Size | 1 | 1¼ | 1½ | 2 |
|---|---|---|---|---|
| Number of Hooks | 30 | 30 | 25 | 20 |
| Price | $2 50 | $3 25 | $3 75 | $4 25 |

## BRANCH TEES OR HEADERS.

| | 1 inch Branch Tees | | 1¼ inch Branch Tees. | 1½ inch Branch Tees | 2 inch Branch Tees |
|---|---|---|---|---|---|
| | 2½ inch Centre to Centre | | 3 inch Centre to Centre | 3½ inch Centre to Centre | 4½ inch Centre to Centre |
| | 2 inch Run | 2½ in. Run | 2½ inch Run | 3 inch Run | 3½ inch Run |
| 2 | $1 15 | $ | $ | $ | $ |
| 3 | 1 35 | .... | 2 40 | 3 80 | 6 25 |
| 4 | 1 60 | .... | 2 85 | 4 60 | 7 75 |
| 5 | 1 85 | .... | 3 55 | 5 50 | 9 25 |
| 6 | 2 10 | .... | 3 95 | 6 25 | 10 75 |
| 7 | 2 45 | .... | 4 20 | 7 25 | 13 00 |
| 8 | 2 75 | .... | 4 95 | 7 75 | 14 00 |
| 9 | 3 40 | 4 30 | 6 15 | 9 00 | 15 00 |
| 10 | 4 00 | 5 00 | 6 85 | 10 00 | 16 50 |
| 11 | 4 80 | 5 50 | 7 25 | 10 75 | .... |
| 12 | 5 10 | 5 85 | 7 65 | 11 50 | .... |
| 13 | 6 00 | .... | 8 25 | .... | .... |
| 14 | 7 25 | .... | 9 00 | .... | .... |
| 15 | 7 25 | .... | 9 75 | .... | .... |
| 16 | 8 25 | .... | 10 95 | .... | .... |

NOTE.—All openings in branch tees for circulation are tapped right hand. Branch tees for box coils are always tapped left hand in branches, and right hand in back inlet.

## HOOK AND RING PLATES.

| Number of Branches | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HOOK PLATES.** | c. | c. | c. | c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. |
| 1 in. pipe, 2½ in. centre to centre | 09 | 18 | 23 | 26 | 32 | 38 | 48 | 59 | 65 | 75 | 85 | 1 00 |
| 1¼ " 3 " " | 10 | 21 | 27 | 32 | 41 | 52 | 68 | 80 | 90 | 1 00 | 1 35 | 1 40 |
| 1½ " 3½ " " | 15 | 28 | 43 | 58 | 72 | 88 | 1 10 | 1 25 | 1 40 | 1 55 | 1 65 | 1 90 |
| 2 " 4½ " " | 22 | 43 | 65 | 90 | 1 15 | 1 35 | | | | | | |
| **RING PLATES.** | | | | | | | | | | | | |
| 1 in. pipe. 2½ in. centre to centre | 16 | 28 | 41 | 50 | 62 | 72 | 96 | 1 00 | | | | |
| 1¼ " 3 " " | 21 | 35 | 50 | 62 | 75 | 1 10 | 1 25 | 1 40 | | | | |

# WROUGHT IRON NIPPLES.

## BLACK IRON—RIGHT HAND.

| Length in Inches | | | | | | Size, Inches | Prices | | Price of Extra Long Nipples — Lengths in Inches | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Close | Short | Long | | | | | Close or Short | Long | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. |
| ¾ | 1½ | 2 | 2½ | 3 | 3½ | ⅛ | .04 | .06 | .07 | .08 | .10 | .12 | .14 | .15 | .17 | .18 | .19 |
| ⅞ | 1½ | 2 | 2½ | 3 | 3½ | ¼ | .04 | .06 | .07 | .08 | .10 | .12 | .14 | .15 | .17 | .18 | .19 |
| 1 | 1½ | 2 | 2½ | 3 | 3½ | ⅜ | .04 | .06 | .07 | .08 | .10 | .12 | .14 | .15 | .17 | .18 | .19 |
| 1⅛ | 1½ | 2 | 2½ | 3 | 3½ | ½ | .05 | .07 | .08 | .10 | .12 | .14 | .16 | .18 | .20 | .22 | .23 |
| 1⅜ | 2 | 2½ | 3 | 3½ | 4 | ¾ | .06 | .09 | .... | .11 | .13 | .17 | .18 | .20 | .22 | .24 | .26 |
| 1½ | 2 | 2½ | 3 | 3½ | 4 | 1 | .08 | .13 | .... | .15 | .18 | .23 | .25 | .28 | .31 | .34 | .36 |
| 1⅝ | 2½ | 3 | 3½ | 4 | 4½ | 1¼ | .11 | .17 | .... | .20 | .24 | .29 | .33 | .36 | .40 | .44 | .47 |
| 1¾ | 2½ | 3 | 3½ | 4 | 4½ | 1½ | .13 | .20 | .... | .25 | .29 | .36 | .40 | .45 | .50 | .54 | .59 |
| 2 | 2½ | 3 | 3½ | 4 | 4½ | 2 | .18 | .27 | .... | .32 | .38 | .50 | .54 | .59 | .65 | .72 | .77 |
| 2½ | 3 | 3½ | 4 | 4½ | 5 | 2½ | .39 | .59 | .... | .... | .68 | .90 | .97 | 1.06 | 1.17 | 1.26 | 1.35 |
| 2½ | 3 | 3½ | 4 | 4½ | 5 | 3 | .48 | .72 | .... | .... | .85 | 1.08 | 1.20 | 1.33 | 1.45 | 1.58 | 1.70 |
| 2¾ | 4 | 4½ | 5 | 5½ | 6 | 3½ | .75 | 1.05 | .... | .... | .... | 1.30 | 1.45 | 1.60 | 1.75 | 1.90 | 2.05 |
| 3 | 4 | 4½ | 5 | 5½ | 6 | 4 | .85 | 1.20 | .... | .... | .... | 1.52 | 1.69 | 1.87 | 2.05 | 2.22 | 2.40 |
| 3 | 4 | 4½ | 5 | 5½ | 6 | 4½ | 1.25 | 1.70 | .... | .... | .... | 2.25 | 2.50 | 2.75 | 2.95 | 3.17 | 3.40 |
| 3¼ | 4½ | 5 | 5½ | 6 | 6½ | 5 | 1.55 | 2.45 | .... | .... | .... | 2.58 | 2.83 | 3.10 | 3.35 | 3.60 | 3.85 |
| 3¼ | 4½ | 5 | 5½ | 6 | 6½ | 6 | 1.85 | 2.90 | .... | .... | .... | 3.05 | 3.35 | 3.70 | 4.00 | 4.30 | 4.65 |
| 3½ | 5 | .... | .... | .... | .... | 7 | 3.20 | .... | .... | .... | 3.60 | 4.05 | 4.45 | 4.90 | 5.30 | 5.75 | 6.15 |
| 3½ | 5 | .... | .... | .... | .... | 8 | 3.55 | .... | .... | .... | 4.05 | 4.55 | 5.05 | 5.50 | 6.00 | 6.50 | 7.00 |
| 4 | 5 | .... | .... | .... | .... | 9 | 5.25 | .... | .... | .... | .... | .... | 6.50 | 7.10 | 7.75 | 8.40 | 9.00 |
| 4 | 5 | .... | .... | .... | .... | 10 | 6.75 | .... | .... | .... | .... | .... | 8.25 | 8.90 | 9.70 | 10.40 | 11.15 |
| 4 | 5 | .... | .... | .... | .... | 12 | 8.00 | .... | .... | .... | .... | .... | 10.00 | 10.80 | 11.75 | 12.70 | 13.65 |

# WROUGHT IRON NIPPLE.

## BLACK IRON—RIGHT AND LEFT.

| Length in Inches | | | | | | Size, Inches | Prices | | Prices of Extra Long Nipples — Lengths in Inches | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Close | Short | Long | | | | | Close or Short | Long | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c | $ c. | $ c. | $ c. |
| ¾ | 1½ | 2 | 2½ | 3 | 3½ | ⅛ | 05 | 08 | 09 | 11 | 13 | 16 | 18 | 20 | 23 | 25 | 27 |
| ⅞ | 1½ | 2 | 2½ | 3 | 3½ | ¼ | 05 | 08 | 09 | 11 | 13 | 16 | 18 | 20 | 23 | 25 | 27 |
| 1 | 1½ | 2 | 2½ | 3 | 3½ | ⅜ | 05 | 08 | 09 | 11 | 13 | 16 | 18 | 20 | 23 | 25 | 27 |
| 1¼ | 1½ | 2 | 2½ | 3 | 3½ | ½ | 07 | 10 | 11 | 13 | 16 | 18 | 21 | 24 | 27 | 29 | 31 |
| 1⅜ | 2 | 2½ | 3 | 3½ | 4 | ¾ | 08 | 12 | .... | 15 | 17 | 23 | 25 | 27 | 29 | 32 | 35 |
| 1½ | 2 | 2½ | 3 | 3½ | 4 | 1 | 11 | 18 | .... | 20 | 24 | 31 | 33 | 37 | 41 | 45 | 48 |
| 1⅝ | 2½ | 3 | 3½ | 4 | 4½ | 1¼ | 15 | 23 | .... | 27 | 32 | 30 | 45 | 50 | 55 | 60 | 65 |
| 1¾ | 2½ | 3 | 3½ | 4 | 4½ | 1½ | 18 | 27 | .... | 34 | 39 | 48 | 52 | 60 | 67 | 72 | 80 |
| 2 | 2½ | 3 | 3½ | 4 | 4½ | 2 | 24 | 36 | .... | 43 | 51 | 67 | 72 | 80 | 87 | 96 | 1 03 |
| 2½ | 3 | 3½ | 4 | 4½ | 5 | 2½ | 52 | 79 | .... | .... | 91 | 1 20 | 1 30 | 1 40 | 1 55 | 1 68 | 1 80 |
| 2½ | 3 | 3½ | 4 | 4½ | 5 | 3 | 65 | 96 | .... | .... | 1 13 | 1 44 | 1 60 | 1 77 | 1 93 | 2 10 | 2 27 |
| 2¾ | 4 | 4½ | 5 | 5½ | 6 | 3½ | 1 00 | 1 40 | .... | .... | .... | 1 75 | 1 95 | 2 15 | 2 35 | 2 55 | 2 75 |
| 3 | 4 | 4½ | 5 | 5½ | 6 | 4 | 1 15 | 1 60 | .... | .... | .... | 2 00 | 2 25 | 2 50 | 2 75 | 3 00 | 3 25 |

# WROUGHT IRON NIPPLES.

## GALVANIZED—RIGHT HAND.

| Length in Inches | | | | | | Size, Inches | Prices | | Prices of Extra Long Galvanized Nipples — Lengths in Inches | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Close | Short | Long | | | | | Close or Short | Long | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. |
| ¾ | 1½ | 2 | 2½ | 3 | 3½ | ⅛ | 06 | 11 | 12 | 15 | 17 | 21 | 24 | 26 | 29 | 31 | 34 |
| ⅞ | 1½ | 2 | 2½ | 3 | 3½ | ¼ | 06 | 11 | 12 | 15 | 17 | 21 | 24 | 26 | 29 | 31 | 34 |
| 1 | 1½ | 2 | 2½ | 3 | 3½ | ⅜ | 06 | 11 | 12 | 15 | 17 | 21 | 24 | 26 | 29 | 31 | 34 |
| 1⅛ | 1½ | 2 | 2½ | 3 | 3½ | ½ | 06 | 11 | 13 | 16 | 18 | 23 | 26 | 28 | 31 | 33 | 36 |
| 1⅜ | 2 | 2½ | 3 | 3½ | 4 | ¾ | 08 | 14 | .... | 18 | 21 | 26 | 29 | 32 | 35 | 38 | 41 |
| 1½ | 2 | 2½ | 3 | 3½ | 4 | 1 | 11 | 19 | .... | 24 | 28 | 34 | 38 | 42 | 47 | 51 | 55 |
| 1⅝ | 2½ | 3 | 3½ | 4 | 4½ | 1¼ | 17 | 29 | .... | 32 | 38 | 45 | 51 | 57 | 63 | 69 | 75 |
| 1¾ | 2½ | 3 | 3½ | 4 | 4½ | 1½ | 21 | 35 | .... | 39 | 46 | 55 | 63 | 70 | 77 | 84 | 91 |
| 2 | 2½ | 3 | 3½ | 4 | 4½ | 2 | 27 | 47 | .... | 52 | 61 | 74 | 83 | 93 | 1 03 | 1 13 | 1 23 |
| 2½ | 3 | 3½ | 4 | 4½ | 5 | 2½ | 56 | 86 | .... | .... | 1 00 | 1 26 | 1 41 | 1 56 | 1 71 | 1 86 | 2 01 |
| 2½ | 3 | 3½ | 4 | 4½ | 5 | 3 | 70 | 1 10 | .... | .... | 1 30 | 1 60 | 1 80 | 2 00 | 2 20 | 2 40 | 2 60 |
| 2¾ | 4 | 4½ | 5 | 5½ | 6 | 3½ | 1 20 | 1 70 | .... | .... | .... | 2 10 | 2 35 | 2 60 | 2 85 | 3 15 | 3 40 |
| 3 | 4 | 4½ | 5 | 5½ | 6 | 4 | 1 35 | 1 87 | .... | .... | .... | 2 30 | 2 60 | 2 90 | 3 20 | 3 50 | 3 80 |
| 3 | 4 | 4½ | 5 | 5½ | 6 | 4½ | 1 85 | 2 60 | .... | .... | .... | 3 30 | 3 65 | 4 05 | 4 45 | 4 85 | 5 25 |
| 3½ | 4½ | 5 | 5½ | 6 | 6½ | 5 | 2 30 | 3 15 | .... | .... | .... | 3 75 | 4 20 | 4 60 | 5 00 | 5 40 | 5 85 |
| 3½ | 4½ | 5 | 5½ | 6 | 6½ | 6 | 2 80 | 4 25 | .... | .... | .... | 4 50 | 5 00 | 5 55 | 6 05 | 6 60 | 7 15 |
| 4 | 5 | 6 | .... | .... | .... | 7 | 4 25 | .... | .... | .... | .... | 5 65 | 6 35 | 7 05 | 7 75 | 8 45 | 9 20 |
| 4 | 5 | 6 | .... | .... | .... | 8 | 5 00 | .... | .... | .... | .... | 6 65 | 7 50 | 8 35 | 9 25 | 10 10 | 10 95 |

# WROUGHT IRON NIPPLES.

## GALVANIZED—RIGHT AND LEFT.

| Length in Inches | | | | | | Size, Inches | Prices | | Price of Extra Long Nipples. Length in Inches. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Close | Short | Long | | | | | Close or Short | Long | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| | | | | | | | $ c. | $ c. | c. | c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. |
| ¾ | 1½ | 2 | 2½ | 3 | 3½ | ⅛ | .08 | .13 | .15 | .18 | .21 | .26 | .29 | .32 | .37 | .40 | .43 |
| ⅞ | 1½ | 2 | 2½ | 3 | 3½ | ¼ | .08 | .13 | .15 | .18 | .21 | .26 | .29 | .32 | .37 | .40 | .43 |
| 1 | 1½ | 2 | 2½ | 3 | 3½ | ⅜ | .08 | .13 | .15 | .18 | .21 | .26 | .29 | .32 | .37 | .40 | .43 |
| 1⅛ | 1½ | 2 | 2½ | 3 | 3½ | ½ | .11 | .16 | .18 | .21 | .26 | .29 | .34 | .38 | .43 | .46 | .50 |
| 1⅜ | 2 | 2½ | 3 | 3½ | 4 | ¾ | .13 | .19 | ... | .24 | .27 | .37 | .40 | .43 | .46 | .51 | .56 |
| 1½ | 2 | 2½ | 3 | 3½ | 4 | 1 | .18 | .29 | ... | .32 | .38 | .50 | .53 | .59 | .66 | .72 | .77 |
| 1⅝ | 2½ | 3 | 3½ | 4 | 4½ | 1¼ | .24 | .37 | ... | .43 | .51 | .62 | .72 | .80 | .88 | .96 | 1.04 |
| 1¾ | 2½ | 3 | 3½ | 4 | 4½ | 1½ | .29 | .43 | ... | .54 | .62 | .77 | .83 | .96 | 1.07 | 1.15 | 1.28 |
| 2 | 2½ | 3 | 3½ | 4 | 4½ | 2 | .39 | .57 | ... | .69 | .82 | 1.07 | 1.15 | 1.28 | 1.39 | 1.54 | 1.65 |
| 2½ | 3 | 3½ | 4 | 4½ | 5 | 2½ | .83 | 1.25 | ... | .... | 1.46 | 1.92 | 2.08 | 2.24 | 2.48 | 2.69 | 2.88 |
| 2½ | 3 | 3½ | 4 | 4½ | 5 | 3 | 1.04 | 1.54 | ... | .... | 1.81 | 2.30 | 2.56 | 2.83 | 3.09 | 3.36 | 3.63 |
| 2¾ | 4 | 4½ | 5 | 5½ | 6 | 3½ | 1.60 | 2.24 | ... | .... | .... | 2.80 | 3.12 | 3.44 | 3.76 | 4.08 | 4.40 |
| 3 | 4 | 4½ | 5 | 5½ | 6 | 4 | 1.84 | 2.56 | ... | ... | .... | 3.20 | 3.60 | 4.00 | 4.40 | 4.80 | 5.20 |

## FLOOR AND CEILING PLATES.

| SIZES | | ½ | ¾ | 1 | 1¼ | 1½ | 2 | 2½ | 3 | 3½ | 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. |
| C. I. Floor ..... | Plain | 06 | 06 | 08 | 11 | 14 | 16 | 24 | 30 | 35 | 42 |
| " " ..... | Plated | 12 | 12 | 14 | 18 | 22 | 26 | 35 | 45 | | |
| C. I. Double Floor.. | Plain | .. | 15 | 15 | 15 | 15 | .. | .. | .. | | |
| " " " ... | Plated | .. | 30 | 30 | 30 | 30 | .. | .. | .. | | |
| C. I. Ceiling..... | Plain | 11 | 13 | 16 | 18 | 23 | 27 | 36 | 50 | 55 | 68 |
| " " ..... | Plated | 14 | 17 | 20 | 23 | 30 | 35 | .. | .. | | |
| C. I. Ceiling, 2 piece.. | Plain | .. | 22 | 28 | 32 | 40 | 50 | 65 | 90 | 1 00 | 1 20 |
| " " " .. | Plated | .. | 26 | 32 | 37 | 48 | 58 | .. | .. | | |
| Spun Brass Floor.... | Plated | 14 | 14 | 18 | 22 | 30 | 35 | 42 | 55 | | |
| Spun Brass Ceiling .. | Plated | 20 | 22 | 24 | 30 | 35 | 43 | 55 | 75 | | |
| Spun Brass Ceiling, with set screw ..... | Plated | 22 | 24 | 26 | 32 | 38 | 46 | 60 | 80 | | |
| Model 2 piece Floor and Ceiling..... | Plain | 14 | 14 | 18 | 20 | 24 | 28 | 43 | 60 | 90 | 1 25 |
| | Plated | 25 | 25 | 28 | 32 | 35 | 38 | 52 | 75 | 1 10 | 1 50 |
| Grabler Floor ... ... | Plated | 25 | 25 | 28 | 32 | 35 | 38 | 52 | 75 | 1 10 | 1 50 |
| " Ceiling..... | Plated | 25 | 25 | 28 | 32 | 35 | 38 | 52 | 75 | 1 10 | 1 50 |
| Holdfast Floor and Ceiling ..... | Plated | .. | 10 | 11 | 12 | 13 | 17 | | | | |
| H. B. Perfection Fl'r.. | Plated | 10 | 10 | 11 | 12 | 13 | 15 | 30 | 50 | | |
| " " Ceiling.. | Plated | 25 | 25 | 28 | 32 | 35 | 38 | 52 | 75 | | |

## GALVANIZED TELESCOPIC FLOOR SLEEVES.

| SIZE OF PIPE | ¾ | 1 | 1¼ | 1½ | 2 | 2½ | 3 | 3½ | 4 | 5 | 6 | 8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Minimum Length, Ins. | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| Maximum " " | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. |
| List Price ..... | 1 05 | 1 20 | 1 35 | 1 50 | 1 80 | 2 10 | 2 50 | 3 00 | 3 75 | 4 50 | 5 25 | 6 15 |

## EXPANSION TANKS.

MADE OF GALVANIZED IRON. COMPLETE WITH GAUGE GLASSES AND MOUNTINGS.

| | | |
|---|---|---|
| Size, 12 x 24 inches..... | each, | $4 00 |
| " 12 x 30 " ..... | " | 4 50 |
| " 14 x 30 " ..... | " | 5 00 |
| Brass Mountings only, without Glass..... | per set | 1 00 |

## GAUGE GLASSES.

| | ⅝ x 12 | ⅝ x 14 | ⅝ x 16 | ⅝ x 18 |
|---|---|---|---|---|
| Per doz .. | $1 00 | $1 25 | $1 50 | $2 00 |

# ASBESTOS AND MINERAL WOOL SECTIONAL COVERING.

## PRICE LIST.

| Inside Diameter Per Foot. | Covering per Ft | | Elbows Each. | Tees Each. | Valves Each. |
|---|---|---|---|---|---|
| | Min Wool | Asbestos | | | |
| ½ | $ 20 | $ 18 | $ 20 | $ 30 | $ 25 |
| ¾ | 21 | 20 | 25 | 33 | 25 |
| 1 | 23 | 22 | 25 | 33 | 25 |
| 1¼ | 25 | 23 | 25 | 33 | 25 |
| 1½ | 27 | 25 | 25 | 33 | 25 |
| 2 | 30 | 27 | 27 | 36 | 27 |
| 2½ | 33 | 31 | 31 | 41 | 41 |
| 3 | 37 | 36 | 36 | 48 | 48 |
| 3½ | 41 | 40 | 40 | 53 | 53 |
| 4 | 45 | 44 | 44 | 59 | 59 |
| 4½ | 50 | 47 | 50 | 65 | 65 |
| 5 | 54 | 50 | 58 | 75 | 75 |
| 6 | 59 | 60 | 65 | 90 | 90 |
| 7 | 65 | 65 | 83 | 1 20 | 1 20 |
| 8 | 75 | 75 | 1 00 | 1 35 | 1 35 |
| 9 | 81 | 80 | 1 10 | 1 50 | 1 50 |
| 10 | 87 | 90 | 1 20 | 1 75 | 1 75 |
| 12 | 1 00 | .... | .... | .... | .... |

Asbestos Cement per 100 lb. bag..... $2.50
Mineral Wool, per 50 lb. bag..... 5.00
Asbestos Sheathing, per 100 sq. ft..... 10.00

## HAIR FELT.

IN ROLLS CONTAINING 300 SQUARE FEET.

½ inch..... $6 50 per hundred square feet.
¾ inch..... 8 50 " "
1 inch..... 10 50 " "

# FLOOR FLANGES.

| Diameter of Flanges, Inches | Sizes of Pipe | ⅜ | ½ | ¾ | 1 | 1¼ | 1½ | 2 | 2½ | 3 | 3½ | 4 | 4½ | 5 | 6 | 7 | 8 | 9 | 10 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. |
| 3 | each | 10 | | | | | | | | | | | | | | | | | | |
| 3½ | " | | 15 | 15 | | | | | | | | | | | | | | | | |
| 4 | " | | | 22 | 16 | 16 | | | | | | | | | | | | | | |
| 4½ | " | | | | | 25 | 22 | | | | | | | | | | | | | |
| 5 | " | | | 30 | 30 | 30 | 30 | | | | | | | | | | | | | |
| 5½ | " | | | | | | | 35 | | | | | | | | | | | | |
| 6 | " | | | | 42 | 40 | 40 | 42 | 42 | | | | | | | | | | | |
| 6½ | " | | | | | | | 50 | 50 | 50 | | | | | | | | | | |
| 7 | " | | | | | | | 62 | 62 | 62 | | | | | | | | | | |
| 7½ | " | | | | | | | | | 75 | | | | | | | | | | |
| 8 | " | | | | | | | 90 | 90 | 90 | 90 | 90 | | | | | | | | |
| 8½ | " | | | | | | | | | | 1 00 | 1 00 | | | | | | | | |
| 9 | " | | | | | | | | | 1 15 | 1 15 | 1 15 | 1 15 | | | | | | | |
| 9½ | " | | | | | | | | | | | | 1 25 | | | | | | | |
| 10 | " | | | | | | | | | | 1 50 | 1 50 | 1 50 | 1 50 | 1 50 | | | | | |
| 11 | " | | | | | | | | | | | | 1 75 | 1 75 | 1 75 | | | | | |
| 12 | " | | | | | | | | | | | | | 2 20 | 2 20 | 2 20 | | | | |
| 12½ | " | | | | | | | | | | | | | 2 20 | 2 20 | 2 20 | | | | |
| 13 | " | | | | | | | | | | | | | | 2 80 | 2 80 | 2 80 | | | |
| 13½ | " | | | | | | | | | | | | | | 2 80 | 2 80 | 2 80 | | | |
| 14 | " | | | | | | | | | | | | | | 3 25 | 3 25 | 3 25 | | | |
| 15 | " | | | | | | | | | | | | | | | 4 00 | 4 00 | 4 00 | | |
| 16 | " | | | | | | | | | | | | | | | | 5 00 | 5 00 | 5 00 | |
| 17 | " | | | | | | | | | | | | | | | | | 5 75 | 5 75 | |
| 18 | " | | | | | | | | | | | | | | | | | | 7 00 | 7 00 |
| 19 | " | | | | | | | | | | | | | | | | | | 7 50 | 7 50 |
| 20 | " | | | | | | | | | | | | | | | | | | | 50 |

The above is considered a complete list.

# CAST IRON FLANGES.

## Threaded Flanges.

| Size Inches | Price | | Price of Bolts per set of one joint |
|---|---|---|---|
| | Faced, each | Faced and Drilled, each | |
| | $ c. | $ c. | $ c. |
| 1 x 4 | 1 00 | 1 25 | 25 |
| 1¼ x 4½ | 1 05 | 1 35 | 25 |
| 1½ x 5 | 1 10 | 1 40 | 25 |
| 2 x 6 | 1 20 | 1 [illegible]0 | 25 |
| 2½ x 7 | 1 40 | 2 00 | 25 |
| 3 x 7½ | 1 60 | 2 25 | 25 |
| 3½ x 8½ | 1 80 | 2 50 | 25 |
| 4 x 9 | 2 15 | 3 00 | 35 |
| 4½ x 9¼ | 2 50 | 3 35 | 70 |
| 5 x 10 | 2 80 | 3 65 | 70 |
| 6 x 11 | 3 20 | 4 00 | 70 |
| 7 x 12½ | 4 35 | 5 75 | 75 |
| 8 x 13½ | 5 00 | 6 50 | 75 |
| 9 x 15 | 6 75 | 8 25 | 1 15 |
| 10 x 16 | 7 75 | 9 25 | 1 70 |
| 12 x 19 | 10 50 | 12 50 | 1 70 |

## Blind Flanges.

| Size Inches | Price | |
|---|---|---|
| | Faced, each | Faced and Drilled, each |
| | $ c. | $ c. |
| .... ..... | ..... | ..... |
| ..... | .. ... | ..... |
| ..... | ..... | . .... |
| 2 x 6 | 1 40 | 1 70 |
| 2½ x 7 | 1 60 | 2 20 |
| 3 x 7½ | 1 85 | 2 50 |
| 3½ x 8½ | 2 10 | 2 80 |
| 4 x 9 | 2 50 | 3 35 |
| 4½ x 9¼ | 2 90 | 3 75 |
| 5 x 10 | 3 25 | 4 10 |
| 6 x 11 | 3 70 | 4 50 |
| 7 x 12½ | 5 00 | 6 40 |
| 8 x 13½ | 5 75 | 7 25 |
| 9 x 15 | 7 75 | 9 25 |
| 10 x 16 | 9 00 | 10 60 |
| 12 x 19 | 14 00 | 16 00 |

## THERMOMETERS AND GAUGES.

N.P. Hot Water Thermometer, straight, each..... $2.00
N.P. Hot Water Thermometer, angle, each ..... 2.50
N.P. Steam Thermometer, with temperature and pressure scales, straight, each ..... 4.00
N.P. Steam Thermometer, with temperature and pressure scales, angle, each..... 5.00
N.P. Altitude Gauge, with 5 inch dial, iron case, brass rim, each..... 3.00
Low pressure steam gauge, with 5 inch dial, iron case, N.P. rim, each..... 3.00

## KIELEY STANDARD STEAM TRAPS.

### FOR HIGH AND LOW PRESSURE.

| Size Number..... | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Size Inlet..... | ¾ | 1 | 1¼ | 1½ | 2 | 2½ | 3 |
| Size Outlet ..... | ¾ | 1 | 1¼ | 1½ | 2 | 2½ | 3 |
| No. lineal feet 1 inch pipe will drain .... | 4,000 | 6,000 | 10,000 | 15,000 | 25,000 | 35,000 | 50,000 |
| Price each.....$ | 25.00 | 35.00 | 45.00 | 60.00 | 80.00 | 100.00 | 125.00 |

## THE MARCK STEAM TRAP.

| No. | Size of Pipe Connection | Capacity in Feet of 1 inch Pipe according to Radiating Conditions. | Price, each |
|---|---|---|---|
| 00 | ¼ inch | 175 to 450 | $ 8 00 |
| 0 | ⅜ " | 225 to 900 | 11 00 |
| I | ½ " | 450 to 2700 | 17 00 |
| II | ¾ " | 900 to 5850 | 25 00 |
| III | 1 " | 1800 to 6750 | 32 00 |
| IV | 1¼ " | 2250 to 10800 | 40 00 |
| V | 1½ " | 4500 to 16200 | 55 00 |
| VI | 2 " | 9000 to 24300 | 70 00 |
| VII | 2 " | 18000 to 36000 | 82 00 |
| VIII | 2½ " | 27000 to 54000 | 90 00 |

## PRESSURE REDUCING VALVES.

| Size, inches | 1 | 1¼ | 1½ | 2 | 2½ | 3 | 3½ | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|---|---|---|
| | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. |
| Kieley | 22 00 | 28 00 | 35 00 | 44 00 | 57 00 | 72 00 | 85 00 | 100 00 | 135 00 | 180 00 |
| Davis No. 1 | 22 00 | 24 00 | 25 00 | 30 00 | 35 00 | 40 00 | 50 00 | 60 00 | 75 00 | 100 00 |

## BACK PRESSURE VALVES.

| Size, inches | 2 | 2½ | 3 | 3½ | 4 | 4½ | 5 | 6 |
|---|---|---|---|---|---|---|---|---|
| | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. |
| Standard, screwed | 11 00 | 13 00 | 15 00 | 19 00 | 22 50 | 28 50 | 33 50 | 43 00 |
| " flanged | ..... | ..... | 17 50 | 22 00 | 26 00 | 32 00 | 37 00 | 47 00 |
| Davis | 14 00 | 16 00 | 18 00 | 22 00 | 25 00 | 30 00 | 40 00 | 60 00 |
| Kieley | 20 00 | 24 00 | 30 00 | 35 00 | 40 00 | 45 00 | 55 00 | 75 00 |

## RADIATOR BRONZES.

| | | |
|---|---|---|
| Brilliant Aluminum | per lb. | $2 00 |
| " Pale Gold | " | 1 25 |
| " Copper | " | 1 50 |
| " Lemon | " | 1 50 |
| " Orange | " | 1 50 |
| " Fire | " | 1 50 |
| " Crimson | " | 1 50 |
| Superior Pale Gold | " | 1 75 |
| Enamel Aluminum | per lb. | $2 50 |
| Patent Olive Green | " | 1 75 |
| " New Green | " | 1 75 |
| " Light Blue | " | 2 00 |
| " Dark Blue | " | 2 00 |
| " Blue Violet | " | 2 00 |
| " Dark Green | " | 1 75 |
| Bronzing Liquid | per gal. | 2 50 |

# USEFUL DATA AND INFORMATION.

**Water Boils** in open vessel, atmospheric pressure, sea level at 212°.

**Water Boils** at lesser temperature than 212° when atmospheric pressure is less, as in case of higher altitudes. The temperature of the resultant vapor or steam will be proportionately less.

**Water Boils** in vacuum at 98°. Hence resultant vapor is 98°.

**Water Expands** in heating from 39° to 212°, one twenty-third or about 4 per cent. in bulk.

**Water** has greatest density or occupies least space at 39° Fahr.

**A Cubic Inch of Water** evaporated at atmospheric pressure (14.7 lbs.) makes (approximately) one cubic foot of steam.

**Multiplying the Height of a Column of Water** by .434 gives pressure in pounds.

**Water in Circulation** is the best known absorbent of heat, and gives out more heat in cooling through a given range of temperature than any known substance.

**Bodies which Absorb Heat Best Radiate it Best.**

**An Imperial Gallon** of water weighs 10 pounds.

**A Cubic Foot** of water weighs 62½ pounds.

**A Hundred Square Feet** of radiation contains approximately 15 gallons of water.

**Heat Unit,** known as **British Thermal Unit,** or **B. T. U.** raises temperature of one pound of water 1°.

**Heat Unit,** 966 heat units will evaporate one pound of water at 212° into steam.

**Heat Unit.** A pound of anthracite coal contains theoretically 14,500 heat units.

**Heat Unit.** A pound of anthracite coal in the actual burning emits between 8000 and 9000 heat units only.

**Heat Units** emitted per hour by a square foot of cast iron radiation, under favorable conditions, will be two for each degree of difference between the temperature of the radiator and surrounding air.

**A Horse Power.** Fifteen square feet of heating surface in a standard tubular boiler is estimated as equal to one horse power.

**Area of a Circle.** Multiply square of its diameter by .7854.

**Circumference of a Circle.** Multiply its diameter by 3.1416.

**Areas of Circles** are to each other as the squares of their diameters.

**The Area of Any Triangle** equals one half the product of the base and perpendicular.

**Doubling the Diameter** of a pipe increases its capacity four times.

**Wrought Iron Steam and Gas Pipe** is reckoned by its internal diameter.

**Boiler Tubes** are reckoned by their external diameter.

**A Ton of Hard Coal** occupies a space equal to 37 cubic feet.

**A Ton of Soft Coal** occupies a space equal to 40 cubic feet.

**A Ton and a Half** Hard Coal to a hundred square feet water radiation, or to fifty square feet steam radiation is the estimated fuel consumption for the winter's firing.

**A Ton of Hard Coal** is considered equal to a ton and a half of soft coal.

**A Square Foot of "Safford" Radiation** weighs approximately seven pounds.

## List of Sizes of Hot Water Mains.

| Radiations | | Radiations | |
|---|---|---|---|
| 75 sq. ft | 1 inch pipe | 700 to 950 sq. ft | 3½ inch pipe |
| 75 to 125 " | 1¼ " | 950 to 1200 " | 4 " |
| 125 to 175 " | 1½ " | 1200 to 1575 " | 4½ " |
| 175 to 300 " | 2 " | 1575 to 1975 " | 5 " |
| 300 to 475 " | 2½ " | 1975 to 2375 " | 5½ " |
| 475 to 700 " | 3 " | 2375 to 3850 " | 6 " |

| Mains | | Branches |
|---|---|---|
| 1 in. will supply | 2 | ¾ in. |
| 1¼ " " | 2 | 1 " |
| 1½ " " | 1 | 1¼ " and 1-1 in. |
| 2 " " | 2 | 1½ " |
| 2½ " " | 2-1½ in. and 1¼ in., or | 1-2 " and 1-1¼ in. |
| 3 " " | 1-2½ in. and 1-1 in., or | 2-2 " and 1-1¼ in. |
| 3½ " " | 2-2½ in. or 1-3 in., and | 1-2 " or 3-2 in. |
| 4 " " | 1-3½ in. and 1-2½ in., or | 2-3 " or 4-2 in. |
| 4½ " " | 1-3½ in. and 1-3 in., or | 1-4 " and 1-2½ in. |
| 5 " " | 1-4 in. and 1-3 in., or | 1-4½ in. and 1-2½ in. |
| 6 " " | 2-4 in. and 1-3 in., or | 4-3 in., or 10-2 in. |
| 7 " " | 1-6 in. and 1-4 in., or | 2-4 in. and 1-2 in. |
| 8 " " | 2-6 in. and 1-5 in., or | 5-4 in. and 2-2 in. |

## List of Sizes of Steam Mains.

| Radiation | One-Pipe Work | Two-Pipe Work |
|---|---|---|
| 40 to 50 sq ft. | 1 inch | ¾ x ¾ inch |
| 100 to 125 " | 1¼ " | 1 x ¾ " |
| 125 to 250 " | 1½ " | 1¼ x 1 " |
| 250 to 400 " | 2 " | 1½ x 1¼ " |
| 400 to 650 " | 2½ " | 2 x 1½ " |
| 650 to 900 " | 3 " | 2½ x 2 " |
| 900 to 1250 " | 3½ " | 3 x 2½ " |
| 1250 to 1600 " | 4 " | 3½ x 3 " |
| 1600 to 2050 " | 4½ " | 4 x 3½ " |
| 2050 to 2500 " | 5 " | 4½ x 4 " |
| 2500 to 3600 " | 6 " | 5 x 4½ " |
| 3600 to 5000 " | 7 " | 6 x 5 " |
| 5000 to 6500 " | 8 " | 7 x 6 " |
| 6500 to 8100 " | 9 " | 8 x 6 " |
| 8100 to 10000 " | 10 " | 9 x 6 " |

The above are safe approximates, prepared from long experience, but conditions may alter these sizes.

7168 X3c 90

## Number of Square Feet of Heating surface in 100 Lineal Feet of Standard Iron Pipe.

### From 1 to 6 Inch Diameter.

| Pipe | Square Feet | Pipe | Square Feet |
|---|---|---|---|
| 1 inch | 34.43 | 3½ inch | 104.72 |
| 1¼ " | 43.30 | 4 " | 117.81 |
| 1½ " | 49.75 | 4½ " | 130.90 |
| 2 " | 62.17 | 5 " | 145.64 |
| 2½ " | 75.26 | 6 " | 173.44 |
| 3 " | 91.63 | | |

## Pressure of Water for each Foot in Height.

| Feet in Height | Pounds Per Sq. In. | Feet in Height | Pounds Per Sq. In. | Feet in Height | Pounds Per Sq. In. |
|---|---|---|---|---|---|
| 1 | .43 | 15 | 6.49 | 50 | 21.65 |
| 2 | .86 | 20 | 8.66 | 70 | 30.32 |
| 5 | 2.16 | 25 | 10.82 | 80 | 34.55 |
| 10 | 4.33 | 40 | 17.32 | 100 | 43.31 |

## Temperature of Steam at Different Pressures.

| Pressure Sq're Inch | Temperature | Pressure Sq're Inch | Temperature | Pressure Sq're Inch | Temperature |
|---|---|---|---|---|---|
| 0 pound | 212 | 4 pounds | 225 | 20 pounds | 257 |
| 1 " | 215 | 5 " | 228 | 25 " | 265 |
| 2 pounds | 219 | 10 " | 240 | 50 " | 297 |
| 3 " | 222 | 15 " | 250 | 100 " | 338 |

## Table Showing Expansion Wrought Iron Pipe.

| Temperature of Air when Pipe is Fitted | Length of Pipe when Fitted | Length of Pipe when Heated to | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 215 | | 265 | | 297 | | 338 | |
| | | Ft. | In. | Ft. | In. | Ft. | In. | Ft. | In. |
| Zero | 100 feet | 100 | 1.72 | 100 | 2.12 | 100 | 2.31 | 100 | 2.70 |
| 32 | 100 feet | 100 | 1.47 | 100 | 1.78 | 100 | 2.12 | 100 | 2.45 |
| 64 | 100 feet | 100 | 1.21 | 100 | 1.61 | 100 | 1.87 | 100 | 2.19 |